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CORONARY THROMBOSIS AMONG PERSONS LESS THAN FORTY YEARS OF AGE*

A Study of Thirty Cases

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ONE of the alarming problems of present-day medicine is the increasing incidence of coronary thrombosis and its more frequent occurrence in the younger age periods of life. The first description of the disease with correct clinical diagnosis in this country is found in Herick's classical article of 1912. In the article he cited two cases in which the patients were young persons, one a man thirty-two years of age, the case reported by Chiari, and the other a man thirty-seven years of age, the case reported by Merkel.

Our interest in the occurrence of coronary thrombosis of young patients involves the broader concepts of coronary sclerosis and atherosclerosis and this study was undertaken to investigate various clues with special reference to the genesis of the disease.

Material

Thirty cases of unquestioned coronary thrombosis comprised the basis for this study. The criteria on which the cases were selected included (1) typical histories of the disease given by patients who had experienced attacks before they came under our observation and who had electrocardiographic relics, and (2) typical clinical phenomena discovered in examination of patients who suffered thrombotic closure while under observation at The Mayo Clinic, confirmed by characteristic electrocardiographic changes or verification at necropsy.

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Incidence by Age and Sex

All but three patients were recorded as being between the ages of thirty and thirty-nine years. One of these patients was twenty-two years of age and the other two were twenty-nine. The average age for the group, exclusive of the three patients who were less than thirty years of age, was 34.7, while that for the males was 34.7 years and for the females 34.6 years.

However, the occurrence of coronary thrombosis somewhat later in the lives of women than of men has been emphasized by Willius in a series of 370 cases.

There were twenty-four males and six females, a ratio of 4:1. This is in line with all previously reported studies of the sex incidence of coronary thrombosis. The sex discrepancy of coronary disease is one of the most intriguing problems of the many that remain unsolved and, as intimated in a previous study,¹ may ultimately be answered by studies in biochemistry.

Racial Trends

The number of cases in this group was not sufficiently large to permit the derivation of reliable racial trends. Sixteen patients were of American parentage while the remaining patients were fairly equally divided among seven foreign ancestries.

Hereditary Trends

The occurrence of coronary disease among patients whose family histories reveal the repetition of cardiovascular disease among their an-

cestors has repeatedly been the basis for comment. In a recent study of 300 cases of coronary thrombosis, Goldsmith and Willius showed that a family history of cardiovascular renal disease occurred in 55 per cent of the cases. In this study, 65 per cent of the patients related family histories which included angina pectoris, coronary thrombosis, sudden death, or "heart disease." The hereditary trend in this study closely paralleled that referred to in the previous report.

The previous illnesses experienced by these patients were in no sense unusual but represented the usual infectious diseases of childhood and adolescence and could in no manner be related to the premature development of coronary disease. In three cases the history of previous rheumatic fever was elicited but in no instances were relics of cardiac disease demonstrated and it appeared improbable that the coronary changes were associated with antecedent rheumatic coronary arteritis.

Use of Tobacco

Concerning twenty-six of the patients, the history of the use of tobacco was recorded. Nineteen (73 per cent) smoked cigarettes; nine smoked excessively and ten moderately; seven did not smoke. None of the women were recorded as smokers. As these figures are not controlled they are only of passing interest, but this subject is under investigation at present on a much broader scale.

Other Clinical Data

In eight cases the anginal syndrome preceded acute coronary closure by an interval of from one day to six months. The average interval was a month and a half. In the remaining twenty-two cases, coronary thrombosis was the first expression of the disease.

Three patients were engaged in strenuous work when the arterial closure occurred, eight were participating in moderate activity, four had just completed a meal, three had just awakened from sleep, while the status of activity of the remaining twelve patients was not determined.

In three cases the attack was without pain; one patient experienced severe nausea, another a feeling of suffocation, and the last a sense of distention. In the other cases the conventional phenomena of the disease were present.

Electrocardiographic Findings

Electrocardiographic examination was conducted in twenty-nine cases. The patient who was not subjected to this examination was under observation at The Mayo Clinic only a short time before death occurred, but postmortem study revealed acute infarcts. Owing to certain unusual features, the case of this twenty-two-year-old woman will be detailed later.

The electrocardiograms of twenty-four patients clearly verified the clinical diagnosis of coronary thrombosis. In five cases, electrocardiograms that were made a considerable time after the occlusion were essentially normal.

The infarcts, as indicated by the electrocardiographic patterns,² were in the anterior wall of the left ventricle in nine cases. Eight of the electrocardiograms were of the T_1 pattern while one was of the Q_1T_1 pattern. In fifteen cases the infarcts were in the posterior basal portion of the left ventricle, the region customarily supplied by branches of the right coronary artery. The patterns were of the T_s type in nine cases, of the Q_s type in two cases, and of the Q_sT_s type in four cases.

The incidence of infarcts of the posterior basal region of the left ventricle in this group greatly exceeds that previously reported and may be a wholly coincidental occurrence.

Mortality

At the time of conclusion of this study eight patients (26.6 per cent) were known to be dead and their average period of survival following the first thrombotic occlusion was twenty-two months. Two died the day of the second occlusion. Ten (28 per cent) of the patients ultimately had two attacks of coronary thrombosis ranging from one month to six years following the first. In one case in this series, previously reported by Smith and Bartels, there were at least four infarcts; the conglomerate involvement of the myocardium made accurate delineation impossible, although the anterior right coronary artery was completely occluded at two points, the anterior descending branch of the left coronary artery at one point and an anomalous left circumflex artery at two points.

Postmortem examination was conducted in five cases, which included four males and one female.

The first case, that of a man thirty-five years of age at death, already has been mentioned.

The heart weighed 715 gm. and was the site of multiple infarcts. In the coronary arteries, evidence was found of atherosclerosis, grade 3. The second case was that of a man, thirty-six years of age at death. A huge, acute infarct involved the apex of the left ventricle. The anterior descending branch of the left coronary artery was completely obstructed by a fresh thrombus. The heart weighed 540 gm. Atherosclerosis, grade 3, of the coronary arteries, was present.

In the third case the patient was a man who died, aged thirty-seven years. An extensive, healed infarct of the left ventricle near the apex was found. Considerable myofibrosis of the left ventricle was present. The heart weighed 450 gm. Atherosclerosis, grade 2+, of the coronary arteries was present.

The patient in the fourth case, a man, died at the age of thirty-eight years. Postmortem examination revealed an acute infarct of the left ventricle corresponding to the distribution of the anterior descending branch of the left coronary artery. Also, there was a healed infarct involving the posterior basal region of the left ventricle and resulting from a previous thrombotic occlusion of the right circumflex artery. The heart weighed 457 gm. Examination of the coronary arteries disclosed atherosclerosis, grade 2.

The fifth case merits special consideration owing to certain unusual circumstances and owing to its similarity to a case reported by White, Glendy and Gustafson. The patient, a woman, twenty-two years of age, was in the third month of her first pregnancy when death occurred. The onset of her fatal illness coincided with a fall from a low porch, at which time a head injury was sustained. She was found on the ground unconscious and did not regain consciousness before her death, sixteen hours later. In

view of the postmortem findings it could not be ascertained whether the fall was occasioned by the severe pain of coronary thrombosis or whether coronary thrombosis occurred as a consequence of a head injury resulting in shock and unconsciousness. There was an acute infarct of the posterior wall of the right ventricle and likewise a linear infarct in the central portion of the interventricular septum, extending from the base to the apex. The heart weighed 282 gm. and there was no atherosclerosis of the coronary arteries. Examination of the brain disclosed petechial hemorrhages in the cortex of the right frontoparietal region.

Comment

The report of these cases of coronary thrombosis of young persons is justified in again emphasizing the fact that this disease is occurring with increasing frequency among young persons. Likewise, it is intended to recall to mind the fact that an alert suspicion regarding its occurrence among young people must be maintained. The general phenomena of coronary thrombosis of the young do not differ materially from those of the same condition when it affects older persons.

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LATE RESULTS OF THORACOPLASTY*

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ANY attempt to evaluate thoracoplasty as a therapeutic measure for pulmonary tuberculosis must be based upon recognition of the fact that thoracoplasty patients constitute a limited and select group. Only a comprehensive survey of the fate of a large, unselected series of tuberculous patients treated by diverse medical and surgical means serves to place the operation of thoracoplasty in its true perspective. Data now being collected at the Minnesota State Sanatorium will soon permit an analysis of the results of treatment of all patients admitted to the Sanatorium. In that study, however, reference to the thoracoplasty series will necessarily be so brief that we wish, at this time, to report in more detail follow-up data pertaining to fifty patients subjected to thoracoplasty prior to January 1, 1937.

All of the patients in this series originally admitted to the Minnesota State Sanatorium were operated on at the University of Minnesota Hospital over a period of eleven years (1926 to 1936, inclusive). Patients operated on for tuberculous empyema were excluded. The fifty thoracoplasties were performed in multiple stages totaling one hundred and thirty-one primary thoracoplasty operations. Subsequently five of the patients required revision of thoracoplasty performed in eight stages. The fifty patients, therefore, were subjected to a total of one hundred and thirty-nine thoracic operations. As some State Sanatorium patients have been operated upon elsewhere and as the University Hospital admits patients from other Sanatoria, the series obviously represents only a fraction of the thoracoplasty experience of the two institutions, but it seemed best to restrict the study to those who had had the same institutional care in order to present a more uniform series and to avoid duplicating follow-up studies that may be reported elsewhere.

Analysis of Material

All of the patients but two were of the white race, one being Chinese, the other part white and

part Chippewa Indian. The ages at the time of operation varied from seventeen to fifty years. As nineteen (38 per cent) were past thirty-five years and nine (18 per cent) past forty years, patients regarded as "old for thoracoplasty" were well represented. Women outnumbered the men 31 (62 per cent) to 19 (38 per cent).

It is hardly possible to present an adequate picture of the extent and character of the pulmonary disease of this group of patients by means of any system of classification. All were classified as far-advanced. Productive lesions were the rule, but in about 10 per cent of the cases the disease was predominantly exudative. All had cavitation. In twenty-six (52 per cent) the disease was essentially unilateral, in twenty-two (44 per cent) bilateral with unilateral cavitation, and in one (2 per cent) bilateral with definite bilateral cavitation.* Measurement of cavities on the x-ray film revealed that in twelve (24 per cent) the cavity measured 2 cm. or less in diameter, twenty-four (48 per cent) measured 2 to 5 cm., and thirteen (26 per cent) more than 5 cm.* Lesions of the left side predominated, the more extensive lesion occurring on the left in thirty-one (62 per cent).

Definite shift of the mediastinum to the affected side occurred in thirty (60 per cent). Dense shadows with mediastinal retraction indicating atelectasis or extensive lung fibrosis occurred in twenty-three (46 per cent). Bronchiectasis was demonstrated by bronchography in only six (12 per cent) but as the earlier patients did not have lipiodol aspirations the actual incidence of dilated bronchi was undoubtedly greater. Other associated thoracic conditions were as follows: pneumothorax three (6 per cent), pleural effusion two (4 per cent), oleothorax one (2 per cent), calcification of pleura one (2 per cent).

Technic of Thoracoplasty

Since 1926 when the first thoracoplasty in this series was performed, the technic of operation has undergone a gradual evolution. From 1926

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*One patient not classified.

through 1930 the operation usually consisted of a paravertebral resection of eleven ribs, performed in two stages (Fig. 1). Only two of the fourteen patients operated on during that period had resection of less than ten ribs. The lower stage operation was performed first in three cases. All others had the upper stage performed first. This stage consisted of resection of five or six or even seven ribs. The segment of rib removed was seldom longer than 12 cm. and the resection of the first rib in some instances was limited to the removal of as little as 1 cm. of rib.

From 1931 through 1933 the operation was modified in that longer rib segments were removed. Six of the sixteen patients operated on during this period had antero-lateral thoracoplasty performed as the final stage. Only five patients among the sixteen had resections of less than ten ribs.

Beginning in 1934 a further modification of the technic of thoracoplasty was introduced at the University Hospital by O. H. Wangenstein. This modification consisted of performing an anterior chondrocostectomy as a preliminary stage. A week or two later total resection of the upper three ribs was performed through a posterior incision. A second posterior operation consisted of resection of two or three or four more ribs. The resulting thoracoplasty involving five to seven ribs and including complete removal of the upper three or more ribs and costal cartilages was often found to be adequate but if necessary an additional stage was performed to include resection as low as the ninth or tenth rib (Fig. 2).

During the period 1934 through 1936, fifteen of twenty patients had resection of less than ten ribs and ten patients had resection of less than eight ribs. Attention was also directed toward further shortening the posterior segment, the rib being divided under the transverse process or the transverse process itself being resected with the rib close to the body of the vertebra. It was during this period also that the extrafascial apicolysis of Semb was popularized but only three of the patients referred to here were subjected to extrafascial apicolysis. A more complete description of the technic developed during the years 1934 to 1936 is reported elsewhere by Wangenstein, Carlson and Bowers.

The anesthetic employed in most instances was nitrous oxide or ethylene, although cyclo-propane is now preferred. Novocaine infiltration was used occasionally but was regarded as less satisfactory than modern inhalation anesthesia.

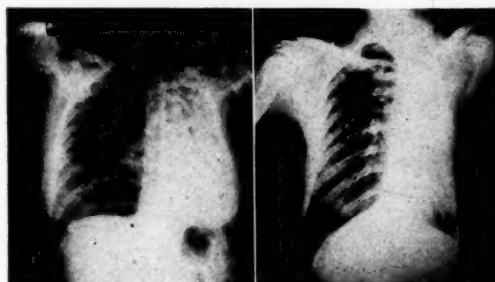


Fig. 1 (left). Example of paravertebral thoracoplasty performed in two stages in 1928. Eleven ribs were resected but collapse is unsatisfactory because only short paravertebral rib segments were resected. The patient is still alive ten years after operation but sputum is positive, cavity open.

Fig. 2 (right). Example of thoracoplasty performed in four stages in 1935. The upper four ribs and costal cartilages were completely removed and six additional ribs were resected. Anatomical collapse is much superior to that shown in Figure 1. The patient is alive, practically without symptoms, sputum is negative, cavity closed.

Late Results

In our study of the late results of thoracoplasty, information was obtained from sanatorium records, x-ray examination, bacteriological study of the sputum, and also by questionnaires sent to patients and physicians. Chief reliance is placed upon recent x-ray and sputum examinations. In this connection it must be obvious that the manner in which data are collected is fully as important as the tabulated statistics. Such terms as "positive" or "negative" sputum are meaningless unless one first establishes a definition of negative sputum based upon definite, rigid criteria. The question of whether a cavity is "open" or "closed" on x-ray examination is also subject to wide interpretation. Negative sputum, as defined here, denotes that guinea pig inoculation of sputum has been reported negative following a succession of negative monthly flotation tests over a period of not less than six months and that subsequently during the patient's residence in the sanatorium or after discharge to his home over a period of months or years the sputum has consistently remained negative.

X-ray interpretation in recent years has been more accurate than formerly due largely to the more frequent employment of special technic,

THORACOPLASTY—CARLSON, BURNS AND WANGENSTEEN

TABLE I. RESULTS OF THORACOPLASTY
(Status of sputum and cavity in 1938)

	Year of Operation			Totals
	1926-1930	1931-1933	1934-1936	1926-1936
Living { Cavity closed and sputum negative.....	5 (36%)	9 (56%)	11 (55%)	25 (50%)
Living { Status of sputum or cavity doubtful.....	2 (14%)	2 (12%)	4 (20%)	8 (16%)
Living { Cavity open or sputum positive.....	2 (14%)	1 (6%)	2 (10%)	5 (10%)
Dead	5 (36%)	4 (25%)	3 (15%)	12 (24%)
Total number in each period.....	14	16	20	50

TABLE II. INFLUENCE OF SIZE OF CAVITY ON RESULT
(Status of sputum and cavity)

	Size of Cavities			Totals
	0-2 cm.	2-5 cm.	More than 5 cm.	
Living { Cavity closed and sputum negative.....	10 (83%)	10 (41%)	5 (38%)	25 (50%)
Living { Status of sputum or cavity doubtful.....	0	7 (30%)	1 (8%)	8 (16%)
Living { Cavity open or sputum positive.....	0	3 (12%)	2 (15%)	5 (10%)
Dead*	2 (17%)	4 (17%)	5 (38%)	12 (24%)*
Totals	12	24	13	50

*One patient not classified—Films not found.

such as increased penetration, Bucky diaphragm, stereoscopic, lateral or oblique films, or the introduction of lipiodol. Despite these advances the roentgen film does not give infallible evidence concerning the fate of pulmonary lesions that have been collapsed by thoracoplasty. In presenting our data, therefore, it seemed best to combine the evidence obtained from both x-ray and sputum examinations (Table I). Comparison of the data in three successive periods (Table I) suggests that improved results have been obtained in recent years although the most recent period (1934-1936) contains the greatest number of patients in which the results of treatment are not clearly determined. One recent patient, for example, is classified among the doubtful results merely because of a recent positive guinea pig report despite the fact that the sputum has repeatedly been negative on flotation tests.

X-ray films permit us to compare the degree of collapse obtained by the modern thoracoplasty as compared with that performed earlier. Films

of patients operated on during the years 1926 to 1930 reveal that only a partial collapse of the thoracic cage was attained, a collapse which we now consider inadequate (Fig. 1). During the years 1931 to 1933 the collapse was more satisfactory but in many instances still inadequate. Since 1934 the collapse of the upper portion of the thoracic cage has almost invariably been good (Fig. 2). Comparison of films of these three different periods reveal quite clearly that failure to obtain the desired clinical result in some of the earlier cases was, without doubt, due to the incomplete removal of segments of ribs in the region of pulmonary cavities.

The x-ray films also provide an interesting record of changes occurring on the unoperated side. In three instances (6 per cent) the contralateral lung was worse after operation, in thirty-eight (76 per cent) it remained practically unchanged and in eight (16 per cent) it showed definite improvement.*

*One not classified.

The results of thoracoplasty are not determined entirely by the type of operation but are influenced primarily by certain characteristics of the pulmonary disease such as the size of cavities, thickness of cavity walls, bronchial stenosis, bronchiectasis, thickened pleura, et cetera. Evidence presented in Table II supports the belief that the size of the cavity is important, as cavities measuring 2 cm. or less were closed about twice as frequently as those measuring more than 5 cm.

Health of Surviving Patients

Answers to questionnaires from patients and physicians reveal that of the thirty-eight survivors all but one report clinical improvement and three are entirely symptom-free. Seventeen are known to be working full time or part time, eleven are living at home but are unemployed, three failed to report whether they were working, and seven are still in the sanatorium.

Six of the seven patients who still reside in the sanatorium are ambulant or semi-ambulant; one, as a consequence of a mixed tuberculous empyema, must remain in bed. One patient of this group has a negative sputum and is about ready for discharge, the sputum of another is positive only on guinea pig inoculation but in this case the presence of a slit-like cavity has been demonstrated by x-ray. The other five patients have positive sputum on flotation. One of the latter has a tuberculous laryngitis.

Further surgery has been recommended for three of the patients now residing in the sanatorium. Additional surgery is definitely contraindicated in the case of the patient with empyema referred to above because of extensive pulmonary disease.

Mortality

It will be noted (Table I) that twelve (24 per cent) of the patients are now dead, eighteen months to twelve years after operation. This tabulation includes deaths from all causes and, obviously, should not be considered as a report of operative mortality. Only one post-operative death occurred among the fifty primary thoracoplasties performed in 131 stages. The case operative mortality, therefore, is 2 per cent; the stage operative mortality is 0.7 per cent. All other deaths occurred from six months to thirty-nine months after operation.

One of the late deaths was also due to operation as it occurred following a revision operation performed one year after the patient had survived the original three-stage thoracoplasty, including an extrafascial apicolysis. This patient was one of five who had revision of thoracoplasty performed in eight stages. The case mortality for revision of thoracoplasty in this small series, therefore, was 20 per cent.

Ten deaths remain to be explained. Six are *known* and two others are *believed* to have been due to progress of the tuberculosis. One patient who had a negative sputum and a closed cavity on x-ray examination died of glomerulonephritis (no necropsy); one who at necropsy was found to have quiescent pulmonary disease (cavity closed by thoracoplasty) died of cardiac disease three years after thoracoplasty.

Comment

The late results reported here appear to be somewhat better than the collected statistics of Hedblom and Van Hazel, which include the experience of Bull, Key, Schedtler, Denk and others. They found that "among 3,762 patients followed for from one to twelve years after operation 35.3 per cent were free from symptoms and bacilli and were able to work; 22.1 per cent were improved and able to do some work; 5.5 per cent were not improved or were made worse by the operation; 3.5 per cent were not traced; 33.6 per cent were dead at the time of the report." On the other hand our data are not so encouraging as the more recent statistics of Haight and Alexander, who have reported on the results of the *modern* type of thoracoplasty performed upon 119 patients with cavernous pulmonary tuberculosis and positive sputum, with or without empyema, from the latter part of 1932 to the end of 1934. "Ninety-nine or 83.1 per cent of these patients have completely closed cavities and persistently negative sputum." However, direct comparison of these statistics is hardly possible. It suffices for our purposes to present the data pertaining to our particular group of patients and to stress the fact that tabulated results depend fully as much on the selection of patients for operation, the time that has elapsed since operation and the criteria for "negative sputum" and "closure of cavity" as on surgical methods.

PRIMARY CARCINOMA OF THE PANCREAS—OHAGE

The number of patients that have returned to work is not regarded by us as an accurate test of the success of thoracoplasty. Whether a patient works or not depends upon a number of conditions or attributes not necessarily related to physical health, such as ambition, confidence, capacity to become rehabilitated, and opportunities for employment. Some patients are known to have sought and found employment when their physical condition or sputum status contra-indicated it; others, who appeared to be capable of working, remain idle.

Summary and Conclusions

1. A survey of the fate of fifty thoracoplasty patients eighteen months to twelve years after operation reveals that 76 per cent are living, 24 per cent are dead.

2. The primary case operative mortality was 2 per cent; the stage operative mortality 0.7 per cent.

3. One-half of the patients (50 per cent of the entire group) have both closed cavities on x-ray examination and negative sputum, including guinea pig inoculation.

4. Comparison of x-rays of three different periods (1926-1930), (1931-1933), (1934-1936) demonstrates that improved collapse has been obtained by modification of the technic of thoracoplasty.

5. The results of thoracoplasty are determined primarily by the pathologic characteristics of the pulmonary disease of patients selected for operation.

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PRIMARY CARCINOMA OF THE PANCREAS*

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PPRIMARY carcinoma of the pancreas presents a painstaking but not insuperable diagnostic problem. We have reviewed thirty-nine cases recorded at the Ancker Hospital, Saint Paul, since 1925 and find that correct preoperative diagnoses were entered in at least fifteen cases (38 per cent). Though no biopsies of pancreatic tumors were made at the time of operation, all cases were proved by autopsy (thirty-four) or by operation (five).

The diagnosis is largely by exclusion. Most commonly, cancer of the head of the pancreas must be differentiated from stone in the common duct. For this purpose, the Watson test is very helpful. It should also be noted that, contrary to the usual teaching, jaundice is not a cardinal symptom of cancer of the head of the pancreas. It was not present in at least four and probably seven of the thirty-nine cases reviewed. X-ray examination of the stomach and duodenum, with negative findings except for the possible presence of an extrinsic mass, is also a

very valuable procedure in establishing a diagnosis of primary carcinoma of the pancreas.

Incidence

Cancer of the pancreas is not a rare disease. Primary carcinoma of the pancreas represented 4.8 per cent of all carcinoma cases in Massachusetts hospitals from 1928 to 1930, a survey by Howard M. Clute showed. Lewis reported an incidence of from 1.5 to 2 per cent; Hoffmann reported 3 per cent; N. Logan Leven reported from 1 to 2 per cent; F. W. Herrmann reported from 1.5 to 2 per cent. Our thirty-nine cases represent an incidence of 1.4 per cent of all the cases of carcinoma recorded at the Ancker Hospital since 1925.

Cancer of the pancreas was more common among males than among females, in the ratio of 2.5 to 1. There were 27 males and 12 females in the series. The disease is most common in the fifth and sixth decades. The average age of the patients in this series at the time of admission to the hospital was sixty-one years; the oldest, eighty-three, the youngest, twenty-

*Thesis presented before the Minnesota Academy of Medicine, October 12, 1938.

seven. However, one case has been reported in a child two and a half years of age, and another in a newborn infant.

Tumors of the pancreas seem to be overwhelmingly carcinomatous. In reviewing 132 cases of tumors of the pancreas, Lewis found 127 to be carcinoma, two sarcoma, two cysts, and one a syphiloma.

Etiology

Exact knowledge as to the etiology of carcinoma of the pancreas is no further advanced than knowledge of cancer elsewhere in the body. Among the factors suggested as leading to the development of carcinoma of the pancreas are: (1) chronic pancreatitis, (2) gallstones, (3) cholecystitis, (4) alcoholism, (5) trauma, (6) developmental defects, and (7) syphilis.

Since only one case of syphilis (positive Wassermann) was recorded among the thirty-nine cases which we reviewed, it seems rather doubtful that syphilis need be considered an important etiologic factor in the development of carcinoma of the pancreas.

The carcinoma may be: (1) scirrhus, (2) medullary, or (3) gelatinous. It may originate from: (1) the epithelial cells of the ducts; (2) the parenchyma of the gland; or (3) very rarely, from the islands of Langerhans. Walters says that 20 per cent of the tumors of the pancreas are inflammatory.

In the thirty-four cases of primary carcinoma which came to autopsy, only the head of the pancreas was involved in twenty-three, which is almost 60 per cent. The body of the pancreas was involved in five, the tail in three, the entire gland in three.

Diagnosis and Symptomatology.—The textbooks teach that epigastric pains and jaundice are among the cardinal symptoms of carcinoma of the pancreas. Osler states that the points of greatest importance in the diagnosis are intense and permanent jaundice with dilatation of the gallbladder, rapid emaciation and a tumor in the epigastric region. Rose and Carless state: "The condition is not necessarily painful in the early stages . . . as it develops it becomes more painful and the patient wastes away and loses appetite and energy. Jaundice gradually supervenes and becomes absolute, with an enlarged gallbladder."

Our observations run somewhat counter to these teachings. It is true that thirty-seven of our thirty-nine cases had epigastric pain, radiating to the back and varying from mild to severe colicky pains. In most cases, however, the pain was mild and did not require sedatives. There was a sensation of fullness and epigastric distress, especially after nourishment.

As for jaundice, it was by no means a constant finding. It was positively reported in only twenty-four of our thirty-nine cases. In four of the patients who did not show jaundice, autopsy revealed that there was no involvement of the common duct either by extension of malignant growth or by compression. In one case, an anatomical anomaly, the common duct passed completely over the head of the pancreas without penetrating it. Lake and Marshall state that developmental abnormalities of the pancreas are not uncommon. Obviously, if the development of carcinoma in the head of the pancreas fails to involve the common duct, jaundice will not occur.

The most common findings in carcinoma of the pancreas were weakness and loss of weight, suffered by all thirty-nine patients in our series. The average weight loss was twenty-eight pounds.

The average duration of symptoms was three months; longest, eight years, shortest, two weeks. Nausea and vomiting occurred in twenty-eight of the thirty-nine cases. In nineteen cases there was a palpable mass; in twenty-two, liver enlargement; in ten, gallstones. Urinalysis was negative in thirty cases, but seven patients had nephritis. There were only two cases of diabetes, lasting from three to five years. We feel that there is no relation between carcinoma of the pancreas and either diabetes or hyperinsulinism.

Ten of our patients exhibited the Bard-Pick syndrome, i.e., progressive jaundice with no remissions, distention of the gallbladder, absence of hepatic enlargement, subnormal temperature and rapid cachexia and emaciation. All cases showed a secondary anemia due to nutritional disturbance. Stool analysis in five cases showed an absence of bile and presence of occult blood. In one case, the presence of undigested food in the stool was owing to a fistula between the jejunum and the transverse colon.

Differential Diagnosis

Since the diagnosis of primary carcinoma of the pancreas is largely by exclusion, the differential diagnosis assumes considerable importance. This condition is most apt to be confused with stone in the common duct. However, we have a rather reliable test, the Watson test, for ruling out the stone in the common duct. With stone, a little bile always enters the intestinal tract; more, in fact, than when the symptom of jaundice is due to neoplasm in the biliary passages. The outflow of bile can be measured by urobilinogen estimation. In cases of jaundice due to stone in the common duct, Watson has reported, the amount of urobilinogen in the feces is in no instance less than 10 mgm. per day, and usually more. Hence, if the Watson test reveals more than 10 mgm. of urobilinogen, in a suspected case of carcinoma of the pancreas, we can, with some certainty, rule out the possibility of carcinoma. At Ancker Hospital, the Watson test has proved accurate in more than 90 per cent of twenty-eight cases of biliary obstruction.

Another diagnostic point in ruling out stone in the common duct is that the patients with stone generally suffer more acute pain.

Other conditions from which primary carcinoma of the pancreas must usually be differentiated are: (1) benign stricture of the common duct; (2) carcinoma of the gallbladder or bile duct; (3) carcinoma of the duodenum and ampulla of Vater; (4) chronic pancreatitis with sclerosis of the gland; (5) biliary cirrhosis; and (6) acute catarrhal jaundice.

The differentiating points are as follows:

In benign stricture of the common duct, we usually get a history of some operative procedure in this region and the symptoms are of longer duration.

Chronic pancreatitis, with sclerosis of the gland, is also generally of longer duration. It is more common in females, and may produce a fever instead of the subnormal temperature common with carcinoma of the pancreas. Acute catarrhal jaundice may also produce chills and fever. It usually occurs in younger people.

Biliary cirrhosis is commonly a more chronic ailment than primary carcinoma of the pancreas.

With carcinoma of the gallbladder or bile ducts, complete blocking of the bile flow usually occurs, and probably earlier. With carcinoma of

the duodenum and ampulla of Vater, x-ray examination may be helpful. However, all the carcinomas in sites adjacent to the pancreas are exceedingly difficult to differentiate.

Some help may be had by applying Courvoisier's law when considering patients with jaundice: If the gallbladder is distended, carcinoma of the pancreas or common duct is the cause. If the gallbladder is contracted, it is due to stone in the common duct. Lewis states that Courvoisier's law is correct in about 80 per cent of the cases.

X-ray Examinations

Negative findings in the stomach and duodenum are exceedingly valuable in excluding these organs as sites of the cancer process. Of our thirty-nine cases, however, only seventeen were submitted to x-ray examination. In five cases there was an extrinsic stomach mass; in two, a cascade stomach; in one, a jejunal colic fistula; and in one, a widening of the duodenal ring due to an extrinsic mass.

Discussing the x-ray findings in carcinoma of the pancreas, W. H. Dixon states that carcinoma of the pancreas can often be diagnosed by observing the pressure of an extrinsic mass on the duodenum, pylorus or cardiac and of the stomach. Harrison states that carcinoma of the head of the pancreas causes stenosis or narrowing and displacement of the duodenum and an increase of the duodenal loop. Tumors of the pancreas have been visualized by means of pneumoperitoneum and lateral pictures.

Prognosis

The prognosis in primary carcinoma of the pancreas is exceedingly grave. However, it is not absolutely hopeless. We can report one patient, who underwent cholecystogastrostomy, who is alive and well four years after the operation.

Walters states that 15 per cent of 113 patients with tumor in the region of the head of the pancreas causing biliary obstruction were alive three years after operation. W. J. Mayo records the case of an old lady who lived six years after cholecystogastrostomy for biliary obstruction due to a mass at the head of the pancreas.

Most surgery for carcinoma of the pancreas, however, must be considered frankly palliative or exploratory. Moynihan said that all cases

of obstructive jaundice are entitled to an exploratory laparotomy. Lewis has further pointed out that in all operations on the gallbladder and bile ducts, the pancreas should be palpated, for the reason that if there is any suspicion of carcinoma of the pancreas, the gallbladder should not be removed. Presence of the gallbladder is one of the most important palliative factors in the treatment of carcinoma of the pancreas. In Lewis's cases the average duration of life after operation was from six to eight months, but during this period the patients were free from their previously marked jaundice and pruritus.

With carcinoma of the pancreas, metastasis takes place early by direct extension to: (1) the tissues adjacent to the pancreas; (2) to the regional lymph nodes; and (3) through the blood stream.

Of the thirty-four cases in our series which came to autopsy, twenty showed metastases to the liver, eighteen to the regional lymph nodes, twelve to the peritoneum, one to the gallbladder, four to the adrenals, two to the stomach, one to the kidney, one to the spleen, five to the small intestine, and one to the thyroid.

Treatment

Though x-ray and radium are sometimes beneficial, surgical intervention is generally the best palliative means. Cholecystoduodenostomy and cholecystojejunostomy are the operations of choice. Lahey recommends cholecystojejunostomy.

In addition to cholecystogastrostomy, the other possible operations are cholecystoenterostomy, cholecystostomy, and radical excision. Three cases have been reported in which the pancreas was completely removed without intervention of diabetes. However, in these three cases recurrence and death occurred within six months. Cholecystostomy is inadvisable because of the loss of bile needed for emulsifying fats. This bile loss prompts a more rapid decline of the patient. With cholecystocolostomy, there is the danger of a rapidly ascending infection of the gallbladder and bile ducts.

The best incision for complete exploration of the pancreas is a transverse incision above the umbilicus, cutting both recti muscles. The gastrotocolic omentum is divided, thus exposing the entire gland.

Sauve and Desjardins developed a technic for partial and total pancreatectomy. The operation consists of: (1) anastomosis of the gallbladder or common duct to the stomach; (2) gastroenterostomy; (3) resection of the head of the pancreas and duodenum; (4) implantation of the remainder of the pancreas into the jejunum.

Operations were performed on nineteen of the thirty-nine cases in our series as follows: exploratory laparotomy, 5; cholecystogastrostomy, 4; cholecystostomy, 3; cholecystectomy, 1; cholecystoduodenostomy, 3; choledochotomy, 1; cholecystocolostomy, 1; posterior gastroenterostomy for duodenal obstruction due to large pancreatic mass, 1.

Summary and Conclusions

A series of thirty-nine cases of primary carcinoma of the pancreas, proved by autopsy or operation, have been reviewed.

Primary carcinoma of the pancreas is most common in the fifth and sixth decades; the average age of incidence in this series was sixty-one years. It is more common in males than in females, the ratio in this series being 2.5 to 1. The head of the pancreas is most commonly involved; only the head was involved in almost 60 per cent of the cases in this series.

The diagnosis of primary carcinoma of the pancreas is largely by exclusion. Most commonly it must be differentiated from stone in the common duct. For this purpose, the Watson test is very useful.

Negative x-ray findings in the stomach and duodenum are also of great value as diagnostic aids.

Jaundice should not be considered a cardinal symptom. At least four and possibly seven cases in this series had no jaundice and no involvement of the common duct.

The prognosis is grave but by no means hopeless. Surgical intervention is the best palliative means. Cholecystoduodenostomy and cholecystojejunostomy are the operations of choice.

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POSTURAL HYPOTENSION*

Hourly and Daily Blood Pressure Variations

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A PHYSICAL examination is never complete until the blood pressure has been recorded with the patient in the recumbent as well as in the erect posture. Failure to carry out this simple procedure results in many patients going from physician to physician looking for help because of dizzy spells and weakness, and seldom finding the help. Hourly and daily records of blood pressure in such a case tell a graphic story, but thus far we have not seen such a record in print. The following report of a case, with accompanying comment and illustration, is presented to emphasize the importance of such a case in everyday practice and to show graphically the variations in blood pressure.

Report of Case

A white man, aged seventy years, a retired school teacher and farmer, entered The Mayo Clinic, September 15, 1938, complaining of spells of weakness and dizziness. The family history was essentially negative. The man always had been asthenic, although his general health had been exceptionally good. He had had influenza in 1918 and appendectomy had been performed for recurrent appendicitis in 1914.

He first had noticed the dizziness and weakness five years before we saw him. These symptoms had appeared following an attack of what had been termed "mucous colitis" which had been characterized only by an excess of mucus in the stools. The patient noted the weakness especially in the morning, after rising, and the dizziness on standing after he had been recumbent or sitting for some time. He experienced actual syncope at times. The attacks had come at occasional intervals until the year before his coming to the clinic. By the time of his examination they were occurring many times a day. Frequently, while walking, he would have to bend over to rid himself of dizziness or he would be obliged to sit or recline. These measures invariably brought relief. He was more uncomfortable and suffered more attacks during the cold seasons than at other times.

The man complained, in addition, of nocturia, and stated that he excreted a larger amount of urine during the night than during the day. Since December, 1937, he had been troubled by a postnasal drip and

occasionally he easily expectorated blood-tinged mucus. He had no chronic cough or other respiratory symptoms. All his life he had been constipated, but aside from this and the attack of mucous colitis there were no other gastro-intestinal symptoms. He never had noticed any abnormalities of sweating; he complained of mild paresthesia in the fingers and toes.

On physical examination the patient appeared at least ten years younger than his actual age. There was no graying of the hair and no tendency to baldness. The skin was soft and senile changes were few. The tonsils were chronically infected. Nothing could be found in the upper respiratory passages to account for the blood-tinged mucus. There were a minimal amount of arteriosclerosis and a few vitreous opacities in the ocular fundi. Periapical dental infection was graded 2 and pyorrhea alveolaris was graded 1, on a scale in which 1 indicates minimal and 4 extreme difficulty. The carotid sinus reflex was not hyperactive. Examination of the thorax revealed only senile emphysema and a soft, apical, systolic murmur. The abdomen appeared to be normal with the exception that muscular tone was poor. The prostate gland was enlarged (grade 1) and prostatitis was graded 1. There was no residual urine. There were moderate sclerosis and tortuosity of the peripheral arteries. Neurologic examination revealed only slight impairment of vibratory sensation.

With the cooperation of the patient some special observations were made.

Observation 1.—The patient was hospitalized and hourly readings of blood pressure were taken while he was recumbent and erect (Figs. 1 and 2). The mean pressures with the patient supine were 140 mm. of mercury systolic and 90 diastolic and with the patient standing 65 systolic and 35 diastolic. The maximal variation in pulse rate was represented by the difference between a rate of 66 beats per minute when the patient was recumbent and 74 beats per minute when he was erect. In figures 1 and 2 it is seen that the blood pressure, while the patient was standing, followed a relatively level curve, without pronounced variations, but that while he was recumbent it exhibited definite fluctuations and at times was actually of hypertensive type.

Observation 2.—The patient was placed on a tilting table at an angle of 45 degrees, head uppermost, and was given, at intervals of three minutes, intravenous injections of 125 mg. of ephedrine sulfate totaling 100 mg. At the beginning of the observation his blood pressure was 70 systolic and 60 diastolic and his pulse rate was 60. At the end, his blood pressure was 84 systolic and 60 diastolic and his pulse rate was 100; he could stand and walk without dizziness or weakness.

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Observation 3.—The man was placed in a baker to determine in what areas sweating would appear.¹¹ Sweat was found everywhere on the body except for a small area on the inner aspect of each leg.

and parendrine were administered. Ephedrine sulfate and parendrine hydrobromide seemed fairly satisfactory in overcoming the weakness and syncope but produced little change in the blood pressure. The aim of

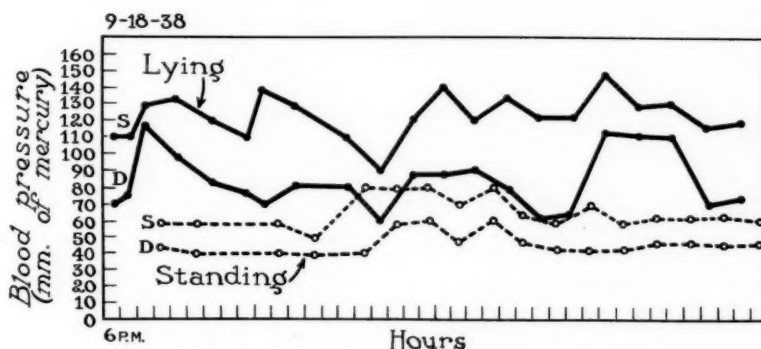


Fig. 1. Hourly readings of blood pressure over a period of approximately forty consecutive hours. Solid lines indicate blood pressure with patient recumbent and dotted lines, with patient standing. S indicates systolic and D, diastolic.

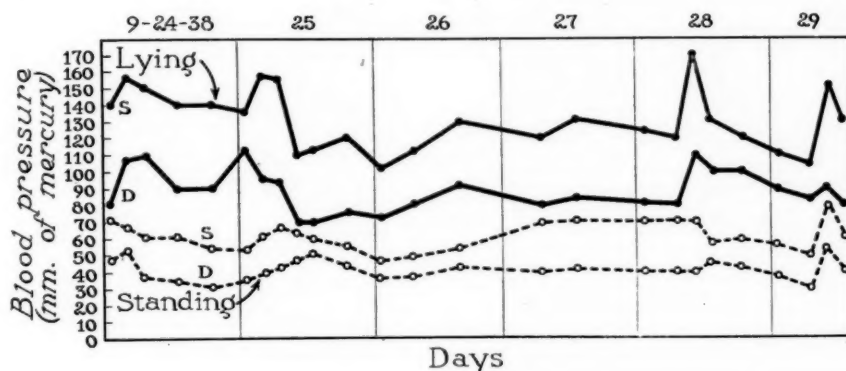


Fig. 2. Observations on blood pressure plotted as in Figure 1, but at less frequent intervals, over a period of approximately six days.

Observation 4.—For several days all urine excreted during the day (7 a.m. to 7 p.m.) was collected in one container and all that excreted during the night (7 p.m. to 7 a.m.) in another. The average diurnal output was 500 c.c. and the average nocturnal output 900 c.c.

Observation 5.—A tight abdominal binder was applied whenever the patient walked; this reduced the tendency toward syncope. When the patient was standing and the binder was removed he experienced marked giddiness and weakness.

Laboratory Examinations.—Results of most of the laboratory tests were negative. In terms of milligrams per 100 c.c., results of blood chemical examinations were as follows: urea nitrogen, 42 mg.; serum sulfates, 4.1; fasting blood sugar, 100; chlorides, 585; sodium, 308; potassium, 17.6; phosphorus, 2.4; calcium, 10. The basal metabolic rate was +6. Roentgenograms of the thorax were negative.

Treatment.—Various schedules of medication were tried, in which preparations of ephedrine, benzedrine

treatment in this type of case is to eliminate the disagreeable subjective sensations rather than to raise the blood pressure to normal.

For about two weeks (Table I) the daily schedule included administration of both ephedrine sulfate and parendrine hydrobromide and the patient noted improvement of his condition. Later (Table I), administration of parendrine hydrobromide was discontinued and ephedrine sulfate only was used. This later schedule was somewhat more satisfactory than the one that was followed during the first two weeks.

On dismissal, October 12, 1938, the patient's blood pressures, when he was sitting, were 100 systolic and 70 diastolic; when he was standing, 76 systolic and 50 diastolic and when he was recumbent, 142 systolic and 90 diastolic. Subjectively his condition was greatly improved.

Comment

Postural, or orthostatic, hypotension was first described as a clinical entity in 1925 by Brad-

POSTURAL HYPOTENSION—BROWNE AND HORTON

TABLE I.—DAILY MEDICATION

Period	Time of day	Dose, mg.	Drug
First two weeks	A.M.	6	25
		7	25
		8	25
		40	
		9:30	20
	P.M.	11	20
		Noon	25
		12:30	20
		2	20
		3	25
Later	A.M.	6	25
		7	25
		8	25
	P.M.	Noon	25
		3	25

bury and Eggleston when they reported three cases. Prior to that time, for many years it had been known that sometimes blood pressure changed markedly when posture changed. As early as 1905, Crampton showed that the pulse and blood pressure of man varied with change in posture.^{4,5} Mortensen, in 1923, attributed the change in blood pressure to myocardial response rather than to vasomotor instability. Ghrist and Brown in 1928 first successfully used ephedrine in treating these patients. Korns and Randall employed benzedrine and the related compound, parendrine. They noted an increased pressor effect of the latter drug compared with the former and a decreased stimulating action on the central nervous system. From time to time additional cases have been reported^{1, 2, 6, 12} in most of which the following phenomena have been exhibited: (1) a pronounced drop in systolic and diastolic blood pressure, and syncopal attacks, on change from the recumbent to the upright position; (2) no increase in pulse rate with this drop in blood pressure; (3) anhidrosis or decreased sweating and inability to stand hot weather; (4) excretion of more urine at night than during the day; (5) a false appearance of youth; (6) a slightly low basal metabolic rate; (7) signs of slight changes in the nervous system; (8) concentra-

tion of blood urea at the upper limit of normal.

Postural hypotension is not a disease but is an expression of inadequate control of the arterial system which may be associated with numerous diseases. As to its underlying cause, there is still dispute. In their original article, Bradbury and Eggleston attributed the condition to deficiency or paralysis of the myoneural junctions. Ghrist and Brown brought forth the hypothesis that the splanchnic vessels lacked resistance to shifts in blood mass and that vagal regulation of the cardiac rate with alterations in blood pressure was diminished or absent. MacWilliam expressed the belief that the difficulty lay in the lower extremities themselves, for he said there was little change in splanchnic blood mass with the sitting and standing posture; the only factor which changed was the position of the limbs. Crampton declared that, in the sitting posture the splanchnic circulation was maintained within limits by the support afforded by the limbs being flexed on the trunk. About as many different hypotheses have been propounded as the number of cases reported. The conclusion is that the vasomotor system plays the predominant rôle in the decrease of blood pressure in the standing position.

In the case reported here not all of the characteristics mentioned in a preceding paragraph were found. There were, of course, the marked fall in blood pressure, the syncopal attacks and the slow, unchanging pulse rate. Intravenous injection of ephedrine, however, caused acceleration of the pulse as has been pointed out (observation 2) and this showed that the normal function of the cardiac accelerator mechanism with change in blood pressure had not vanished. Our patient did not exhibit abnormal sweating and that he did not was an index of normal sympathetic control. Instead of inability to stand hot weather he suffered most during cold seasons. One of his most bothersome symptoms was excessive nocturnal urination. He possessed the false appearance of youth but not the characteristically low basal metabolic rate. The diminished vibratory sensation may have been a natural senile change and it was the only sign we could place in the category of slight changes in the nervous system. The concentration of blood urea was in the higher limits of normal as would be expected. It is interesting to compare the fluctuating curve this pa-

tient's blood pressure presented when he was recumbent with the relatively flat curve obtained when he was erect.

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THE VALUE OF PERSISTENCE IN THE TREATMENT OF THROMBO-ANGIITIS OBLITERANS: REPORT OF TWO ILLUSTRATIVE CASES*

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THE pessimistic attitude relative to the outlook for patients with thrombo-angiitis obliterans has gradually changed to a more optimistic one. That much can be accomplished for such patients is more apparent as experience in medical, neurosurgical and conservative orthopedic treatment of this condition accumulates. This change in attitude has resulted from development of logical methods of treatment and the gradual recognition that persistence is most important. In considering treatment of patients with thrombo-angiitis obliterans with gangrenous lesions, ulcers or pain while the limb is at rest, both patient and physician must be thoroughly imbued with the idea that treatment over a comparatively long period of time is essential if the best results are to be accomplished. It is sometimes well to point out to a patient that many diseases, such as tuberculosis, for example, require treatment for months and that thrombo-angiitis may be as demanding of time. When this situation is discussed with a patient with thrombo-angiitis obliterans soon after treatment is begun, he is easily reconciled to slow progress, a state of mind which in itself seems to hasten improvement. It is the purpose of this report to stress the importance of persistent treatment.

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MAY, 1939

Report of Cases

Case 1.—A twenty-seven year old salesman of Scotch-English descent entered The Mayo Clinic on February 1, 1937, because of painful ulcerations on the first, second and third left toes, which had been present for one month.

There was no family history of vascular disease except that his father had had hypertension. Six years before admission the patient had frozen his feet but recovery had occurred promptly and there had been no residual symptoms. He had begun to smoke cigarettes at the age of seventeen and he had consumed between twenty and forty of them a day since that time. His past history was otherwise irrelevant.

Two and a half years before admission the patient noticed several red tender lumps along the veins of the lower part of both legs, which disappeared in about a month.

Two and a half months before admission, while the patient was recovering from an attack of "influenza," there was a sudden onset at rest of marked numbness, coldness, pallor and pain involving the left foot. These symptoms were so severe that he was taken to a hospital, where he was treated by the application of hot and cold packs, intravenous injection of a solution of sodium chloride and some intramuscular injections. The condition of his foot gradually improved so that one month after the onset of the symptoms he was once more walking about. At this time he experienced a similar episode of sudden onset of pain and numbness in his left foot, the distal half of which became cold and white. A few days later a Leriche operation (periarterial sympathectomy) was performed on his left femoral artery. One month before admission, the left first, second and third toes became darkly discolored and ulceration of them occurred.

During the one and a half months prior to admission the gangrenous toes were affected with pain, which was severe enough to prevent sleep and which was partially relieved by allowing the left foot to hang over the edge of the bed. The patient's appetite also was diminished so that he lost 20 pounds (9 kg.) in weight.

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TABLE I. RESPONSE OF TEMPERATURE OF SKIN OF TOES AND FINGER OF A PATIENT SUFFERING FROM THROMBO-ANGIITIS OBLITERANS TO INTRAVENOUS INJECTION OF TYPHOID VACCINE

	Temperature*				
	Mouth	Toes			Finger
		Right first	Right fourth	Left fourth	Right third
Before injection	99.5 (37.5)	85.8 (29.9)	85.5 (29.7)	83.7 (28.7)	87.1 (30.6)
After injection	101.3 (38.5)	97.3 (36.3)	96.6 (35.9)	88.9 (31.6)	99.1 (37.3)

*In degrees Fahrenheit; figures in parentheses are in degrees Centigrade.

On examination at The Mayo Clinic the patient was found to weigh 140 pounds (64 kg.). The oral temperature was 97.6° F. (36.4° C.), the pulse rate 112 beats per minute and the blood pressure was 115 mm. of mercury systolic and 90 diastolic. The results of the general examination, exclusive of the extremities, were negative except for tachycardia and moderately enlarged tonsils.

The muscles of the entire left leg were somewhat atrophied, weak and flabby. The entire left second toe was black, shrunken and crusted and there were similar changes on the dorsum, tip and lateral surface of the great toe and on the dorsum at the base of the third toe. The distal half of the nail of the left first toe had been removed (Fig. 1). Pulsations were normal in radial, ulnar, femoral, popliteal and posterior tibial arteries bilaterally. Pulsations could not be felt in the dorsalis pedis arteries bilaterally. There were no unusual changes in color of the skin of the hands and right foot as a result of elevation or dependency. Color changes dependent on posture of the left foot could not be determined because of staining of the skin with mercurochrome. The response of the temperature of the skin of the toes to fever induced artificially by the intravenous injection of typhoid vaccine is shown in Table I. This study indicated marked impairment of circulation to the left fourth toe. Studies of the temperature of the skin of the left first, second and third toes were not made because attachment of the thermocouple junctions to them caused pain.

Laboratory studies: The results of routine laboratory studies, including determination of hemoglobin, enumeration of erythrocytes and leukocytes in the blood, a serologic test for syphilis and differential leukocyte count, were essentially normal. On repeated urinalyses traces of albumin were found and in several samples there was slight reduction of Benedict's solution. The blood sugar was 72 mg. per 100 c.c. of blood. Sedimentation of the blood was 17 mm. in an hour. Roentgenographic examination of the lungs and left foot gave negative results.

A diagnosis of thrombo-angiitis obliterans with two episodes of sudden arterial occlusion was made.

The patient was treated in the hospital. Smoking was prohibited. Most of the time the patient rested in bed and weight-bearing on the left foot was carefully avoided. Radiant heat was applied to the feet by means of carbon filament bulbs in a cradle. The temperature of the air about the feet was maintained at about 90° F. (32.2° C.). The left foot was soaked several times daily in a warmed solution of boric acid or chloramine. Intermittent suction and pressure could not be employed because this procedure increased the pain. On the day following admission to the hospital, fever was induced artificially by injecting intravenously a vaccine containing killed typhoid and paratyphoid

A and B organisms. Pain was accentuated as a result of this procedure but it was considerably diminished the following day. Subsequent intravenous injections of vaccine were given at intervals of two to eight days and the patient received twenty-nine of them during the five months he was in the hospital. During this same period he received passive vascular exercises, on the Sanders bed for 308 hours. Anodynes and sedatives were administered to relieve pain and induce sleep. During a period of five months he received the following amounts of drugs: morphine sulfate 9.1 grains (0.59 gm.), dilaudid 2.2 grains (0.14 gm.), codeine sulfate 233 grains (15.1 gm.), acetylsalicylic acid 1,580 grains (102.4 gm.), phenobarbital 139 grains (9.0 gm.), sodium amytal 39 grains (2.5 gm.) and pentobarbital sodium 71.5 grains (4.63 gm.).

On this regime progress was slow and indeed for a considerable time was doubtful. The patient continued to have a great deal of pain so that fairly large amounts of opiates were required—especially during fever induced by intravenously injected vaccine. It was thought wise to defer any operative removal of the gangrenous areas until such a time as complete demarcation had occurred and the blood supply to the surrounding tissue had been developed as much as possible, or even to wait until spontaneous amputation should occur. Accordingly some other method for the relief of pain had to be employed. Three weeks after admission, under infiltration anesthesia the left superficial and deep peroneal nerves were resected in the lower leg and the left posterior tibial nerve was crushed. After this operation there was reduction of pain in the left foot of about 50 per cent, although partial sensation remained in the distribution of the posterior tibial nerve on the plantar surface of the foot.

Two and a half months after admission a second operation was performed. Under pentothal sodium anesthesia the second left toe was amputated at the line of demarcation, that is, through the metatarsophalangeal joint, and the first phalanx of the great toe, which was projecting into the wound, was completely removed, as was the nail of this toe, under which considerable pus had accumulated.

Subsequent healing was slow but progressive until the time of the patient's discharge from the hospital three and a half months after admission, at which time small areas of granulation tissue were present at the sites of removal of the second toe and of the first toenail and at the area in which the phalanx of the first toe had been removed (Fig. 2). The patient returned to the hospital in a week, however, because of ulceration in these areas brought on by walking and weight-bearing. A month later (five months after the first hospital admission) he was again discharged, at which time healing was complete.

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In a letter received from the patient four months after dismissal he stated that he was enjoying good health and leading an active life with no recurrence of ulceration or return of pain. He had gained 45 pounds (20 kg.) in weight. Thirteen months after dismissal the patient stated he was entirely well.

months later similar pains began in the calves of his legs, allowing him to walk only a block or so before he had to stop and rest.

During the year previous to admission the patient noticed spots of cyanosis on the fingers of the left hand (most marked on the third and fifth fingers)



Fig. 1. Thrombo-angiitis obliterans. Appearance of foot at time of admission of patient to hospital.



Fig. 2. Thrombo-angiitis obliterans. Same extremity as pictured in Figure 1 but after treatment.



Fig. 3. Thrombo-angiitis obliterans, with gangrenous ulcer on plantar surface of foot.

There can be no valid criticism of the diagnosis of thrombo-angiitis obliterans in this case. The patient had had superficial phlebitis, which, in conjunction with occlusive arterial disease, is almost pathognomonic of thrombo-angiitis obliterans. Sudden arterial occlusive disease occurs commonly in this condition. In a study of 225 cases, Kvale and one of us (Allen) found that sudden occlusion occurred in the course of well established thrombo-angiitis obliterans in fifteen cases, or 7 per cent, and as an original event in eleven cases, or 5 per cent, of the cases. This case which we have presented seems clearly exemplary of the latter situation. The fortunate outcome can be attributed to no single method of treatment, for many methods persistently carried out seem clearly responsible.

Case 2.—The patient, a thirty-five-year-old oil field worker of Irish descent, entered The Mayo Clinic on January 30, 1937, because of a painful ulcer on the medial aspect of the ball of the left foot, which had been present for one month.

Family and past histories were irrelevant except that the patient had smoked one package of cigarettes a day for many years.

In the fall of 1934, about two years before admission, the patient developed a red, painful nodule on the radial aspect of the left lower arm, which seemed to migrate around the arm and also up its length to the elbow. Redness and pain were intermittent and there was no fever. In three or four months the nodule disappeared entirely.

One year before admission the patient began to have claudicatory pain in the arches of the feet. Six

and on both feet. These patches were noticeable only on exposure to cold and disappeared with the application of warmth. Pallor of the fingers and toes was present when these parts were elevated, but there was no pain while they were at rest. On two occasions the patient had developed small ulcers along the sides of the nails on the third and fifth fingers, each requiring several weeks to heal.

TABLE II. GRADE OF PULSATION IN EXTREMITAL ARTERIES OF A PATIENT SUFFERING FROM THROMBO-ANGIITIS OBLITERANS

Artery	Pulsations	
	Right	Left
Radial	4	0
Ulnar	4	0*
Femoral	3 to 4	2 to 3
Popliteal	2	0
Posterior tibial	0	0
Dorsalis pedis	0	0

Grade 0—No pulsation.

Grade 4—Normal pulsation.

*Though pulsations were absent in the left ulnar artery, there was present a fairly good sized collateral artery on the dorsum of the ulnar side of the lower arm in which pulsations were graded 2.

Two months before admission the patient noticed a small blister on the medial aspect of the ball of the left foot. This increased in size and was accompanied by so much pain and swelling of the foot that he was forced to take to his bed a month later. The blister was opened and trimmed by his physician, but in spite of this and other treatment, including intermittent suction and pressure, injections of tissue extract and

TABLE III. RESPONSE OF TEMPERATURE OF SKIN OF TOES AND FINGER OF A PATIENT SUFFERING FROM THROMBO-ANGIITIS OBLITERANS TO INTRAVENOUS INJECTION OF TYPHOID VACCINE

	Temperature*					
	Mouth	Toes				Finger
		Right first	Right fourth	Left first	Left fourth	Left fifth
Before injection	99.5 (37.5)	80.2 (26.8)	81.0 (27.2)	83.5 (28.6)	81.9 (27.7)	83.3 (28.5)
After injection	102.9 (39.4)	85.5 (29.7)	84.2 (29.0)	86.9 (30.5)	84.9 (29.4)	97.5 (36.4)

*In degrees Fahrenheit; figures in parentheses are in degrees Centigrade.

insulin and two injections of typhoid vaccine, the ulcer failed to heal. The patient continued to smoke most of the time during his illness.

On examination at the time of admission the patient was well nourished. The oral temperature was 98.2° F. (36.8° C.). The pulse rate was 80 beats per minute and the blood pressure was 130 mm. of mercury systolic and 80 diastolic. The results of a general physical examination were essentially negative except for the extremities. Over the medial aspect of the first metatarsophalangeal joint of the left foot was a traumatic, infected, gangrenous ulcer, 3 cm. in diameter and 1.5 cm. deep (Fig. 3). The ulcer and the surrounding infected area were intensely tender and the left foot was swollen, grade 2, on a basis of 1 to 4. There was considerable pain in the region of the ulcer while the foot was at rest, which prevented the patient from keeping his left leg in bed and caused him to allow it to hang over the edge of the bed most of the time.

Circulation in both feet as well as in the left hand was appreciably impaired as shown by abnormal pallor in the elevated position and abnormal rubor in the dependent position. Pulsations in many of the main arteries of the extremities were impaired as demonstrated in Table II.

The response of the temperature of the skin of the toes to fever artificially induced by the intravenous injection of typhoid vaccine is shown in Table III.

This study indicated marked impairment of circulation to the toes of both feet. Collateral circulation to the left hand was adequate.

Routine laboratory studies, including numerous urinalyses, determination of the blood hemoglobin and enumeration of the erythrocytes and leukocytes in the blood, gave normal results. Quantitative determinations of blood lipids resulted as follows: Total fats, 726 mg. per 100 c.c.; cholesterol, 252 mg. per 100 c.c., and fatty acids, 474 mg. per 100 c.c. Roentgenographic examination of the lungs and of the left foot gave negative results.

A diagnosis of thrombo-angiitis obliterans was made.

The patient was treated in the hospital, where he rested in bed most of the time, avoiding all weight-bearing on the ulcerated foot. His feet were protected by a wooden cradle in which radiant heat was applied to them by means of carbon filament bulbs, which maintained the air about his feet at a temperature of about 90° F. (32.2° C.). The left foot was soaked several times a day in a warmed solution of boric acid, chloramine or potassium permanganate. Zinc peroxide paste was applied to the healing ulcer daily for several weeks during the midportion of his stay in the hospital. On the day following admission to the hospital, fever was induced artificially by the intravenous injection

of a vaccine containing typhoid and paratyphoid A and B organisms. After an initial accentuation of pain this procedure resulted in a marked relief from pain on the following day. Fifteen subsequent intravenous injections of vaccine were made at two to eight day intervals during the two months the patient was in the hospital. During this period of time he received, daily, passive vascular exercises on the Sanders bed for a total of forty-four hours. Intermittent suction and pressure also were applied to the left leg daily for a total of eighty-two hours. Smoking was strictly prohibited throughout treatment. Moderate amounts of anodynes and sedatives were administered for the relief of pain and the induction of sleep.

From the beginning the patient's progress was slow because of the great size and depth of the ulcer on his foot, which gradually became filled with granulation tissue and finally was covered by epithelium. Even at the time of his dismissal, two months after admission, there was a fairly deep depression at the site of the former ulcer. In a letter received three months after dismissal the patient stated that this depression was almost entirely filled in and that he had been working for two months, though he could not stand on his feet for any great length of time.

A second letter, eight months after dismissal, stated that the patient was on his feet eight hours a day without pain except from walking, which brought on claudication at three blocks. There was still slight tenderness to pressure over the site of the old ulcer. The color of his feet was said to be better.*

Two important lessons can be gained from a study of this case report. Minor surgical procedures are frequently ill advised, for they may cause gangrene or gangrenous ulcers in many cases. Barker's study showed that such undesired results had followed injudicious surgical procedures in a third of the cases of thrombo-angiitis obliterans with gangrenous lesions. The prospect for recovery when gangrene or gangrenous ulcers are present is substantially less than when they are absent. Injudicious surgical procedures consist chiefly in removal of the toenails and corns or of calluses, and in incision for

*Since this paper was written the patient writes eighteen months after dismissal that the condition of his feet is excellent. There are no ulcers of the feet or pain except intermittent claudication when walking a considerable distance. The nails are growing.

suspected abscess. We recommend strongly that no local surgical procedures be performed in any case until blood supply has been proved adequate or until the surgeon has carefully considered the ill effects which may follow such procedures when blood supply is diminished. The second lesson is that lesions which appear at first glance to be severe enough to justify amputation may disappear as a result of intensive medical treatment.

Comment

The two cases reported emphasize that gangrenous lesions in thrombo-angiitis obliterans do not always necessitate amputation. On the contrary, intensive medical treatment may cause healing and restoration of an extremity to useful function. An outline of the treatment of thrombo-angiitis obliterans is beyond the scope of this paper. It has been presented adequately elsewhere. Treatment is seldom uniform in type but usually is an individual affair, varying greatly from case to case, and may necessitate close cooperation of internist, orthopedist and neurosurgeon. In this presentation we have emphasized the importance of persistence of medical treatment in many cases. It is impossible to state precisely when medical treatment should be abandoned for amputation, as criteria for amputation vary greatly from case to case. In general, severe pain which cannot be controlled adequately by medical or neurosurgical means, or gangrenous lesions which do not respond to intensive medical treatment over a considerable period of time, require amputation.

The physician dealing with many patients with thrombo-angiitis obliterans sees two types of cases for which decision relative to treatment is not difficult. There are cases for which prompt amputation is advisable and cases for which amputation need not be considered. For the latter cases medical treatment and perhaps sympathectomy are clearly indicated. In a third group of cases the question arises at once whether or not amputation is advisable. In such circumstances it is best to treat patients conservatively for a minimum period of several weeks. If unsatisfactory progress results from this regime, then amputation may be considered. If the treatment causes improvement, it may be continued.

The physician may object at once that thrombo-angiitis obliterans is a chronic disease and that healing of lesions such as those described does not necessarily mean cessation of the disease. He may point out that amputation may be advisable eventually and that there is little reason for deferring the time when such treatment is necessary. Such an attitude prompts decision to amputate limbs as soon as the diagnosis of thrombo-angiitis obliterans is made. Fortunately, the poor logic of this is apparent, for many patients with thrombo-angiitis obliterans have two fairly normally functioning legs all their lives; many others keep one normally functioning leg.

Other physicians may point out that the cost of conservative treatment over a long period of time may be great. It is almost always good policy to discuss the situation frankly with the patient. If he desires a trial of conservative treatment, it seems to us he should have it. If such treatment impresses him as too costly and too uncertain of producing good results, amputation may be advisable. Too many factors influence a patient to allow advising him dogmatically. The physician should not allow a poorly founded attitude of pessimism on his part to influence the patient to accept amputation when it may not be necessary. We agree that some patients are treated conservatively too long but in many instances "too poor" treatment is mistaken for "too long" treatment. We cannot agree that the cost of an intensive but conservative program for a few weeks is too great if there is a chance of producing healing of gangrenous lesions and quiescence of the disease. We believe that the incidence of amputation for thrombo-angiitis obliterans can be reduced sharply. Earlier recognition, better conservative treatment and less haste to amputate in many cases are very desirable. Much can be accomplished in producing results which amply justify conservatism. We have presented two illustrative cases to support this contention.

References

1. Barker, N. W.: The danger of gangrene of the toes in thrombo-angiitis obliterans and arteriosclerosis obliterans. *Jour. A.M.A.*, 104:2147-2149, (June 15) 1935.
2. Kvale, W. F. and Allen, E. V.: Sudden arterial occlusion in thrombo-angiitis obliterans. *Am. Heart Jour.*, 12:458-466, (Oct.) 1936.

CASE REPORT

PICROTOXIN TREATMENT OF BARBITURATE INTOXICATION

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THE recent report of the Council on Pharmacy and Chemistry of the American Medical Association¹ gives the present status of the use of picrotoxin in the treatment of poisoning by the barbiturates. The following case is reported because it is believed to have demonstrated to the authors the efficacy of the use of this drug and also because it illustrates a clinical example of the picrotoxin-barbiturate antagonism or the antidotal action of picrotoxin in barbiturate intoxication.

Picrotoxin is a bitter neutral principle prepared from *Anamirta paniculata* (*Cocculus indicus*). It stimulates the motor and inhibitory centers in the medulla, especially the vagus and respiratory centers. Picrotoxin ($C_{28}H_{44}O_{10}$) may be broken up into Picrotoxinin ($C_{18}H_{28}O_8$) and Picrotin ($C_{10}H_{16}O_2$); is soluble in eight parts of alcohol or 240 parts of water. Koppányi et al² found that it had a distinct awakening or cortical effect aside from its medullary stimulating action. The studies of Maloney, Fitch and Tatum³ in 1931 called attention to the antidotal action of picrotoxin in the treatment of barbiturate poisoning. Subsequent reports by these same authors⁴ established a clinical basis for the use of this drug and the report of four cases by Kohn, Platt and Saltman⁵ and an additional report by Bleckwenn and Masten⁶ of six cases have added further proof of the clinical value of picrotoxin as an antidotal or antagonistic agent against the toxic effects of overdoses of the barbitals.

Case Report

A white woman, aged twenty-four, weighing 108 pounds, sixty-four inches in height, was admitted to the hospital on November 17, 1938, in an unconscious and comatose condition. Barbiturate intoxication was suspected and it was estimated that twelve hours had elapsed since the taking of sixty grains of phenobarbital (luminal) obtained from a local drug store.

The patient's color was good, respirations slow and shallow, and she was comatose. Her temperature was 99.2 F., pulse rate 74, respiratory rate 16, and the blood pressure 92 systolic, 64 diastolic. The pupils were miotic (3 mm.), equal, regular, and did not react to light. The eyes were fixed in the midline, the corneal and conjunctival reflexes weak and sluggish. Her mucous membranes were moist and slightly cyanotic. The neck muscles were flaccid and all deep tendon reflexes were greatly reduced. The Babinski reflex was bilaterally negative. The admission diagnosis was: Overdose of hypnotic drug, probably barbiturate.

Course.—Gastric lavage was performed at once and only a small amount of fluid was found in the stomach. The bladder was emptied by catheterization and the urine found normal. The hemoglobin was 86 per cent; R.B.C. 4,620,000; W.B.C. 18,400. Five hundred c.c. of 10 per cent glucose in normal saline was given intravenously. The patient's temperature rose to 104.6

F.; pulse to 120; respirations to 32 per minute. Caffeine sodium benzoate (gr. 7½) was given subcutaneously and repeated with little apparent effect. The intravenous administration of picrotoxin was begun nine hours after admission, beginning with 1 mg. and repeating in increasing doses every twenty minutes until 6 mg. were given. Two to four hours were then allowed to elapse between doses, which were then increased to 9 mg. and then to 12 mg., depending on the blood pressure reading and the character of the pulse and respirations. During the first twenty-four hours of picrotoxin administration the patient received 111 mg. of picrotoxin intravenously and in the next twelve hours 36 mg. of picrotoxin by the same route, thus receiving a total of 147 mg. of picrotoxin in the thirty-six hour period. At the end of this time she developed a return of the deep reflexes, her temperature and pulse declined, and respirations became stabilized and deeper. Cyanosis disappeared and did not return. Feeding by duodenal tube was carried on for twelve hours, when oral feeding was possible. Strychnine gr. 1/20 was given subcutaneously three times daily after return of consciousness for its tonic and supportive effect. Recovery was considered well under way forty-eight hours after the institution of the picrotoxin administration. Strength and function of the upper extremities, however, returned late and weakness of these members persisted for seventy-two hours. The patient was released from the hospital on the fifth day after admission and was oriented, mentally clear, her temperature 99.4 F., pulse rate 90 per minute, respiratory rate 22 per minute, blood pressure 120 systolic and 66 diastolic.

The patient admitted having taken forty tablets of 1.5 gr. phenobarbital (luminal) or a total of sixty grains. It was observed during the administration of the picrotoxin that giving the drug intravenously at the rate of 1 mg. per minute did not produce any apparent untoward effects and that when the dosage reached 6 to 12 mg. certain signs of clinical improvement became apparent. This was evidenced by: (1) a rise of systolic and diastolic blood pressure; (2) a perceptible slowing of the pulse rate; (3) a deepening and slowing of the respirations; (4) a decrease of the cyanosis; and (5) a return of voluntary muscular movements. The return of consciousness occurred after the administration of a total of 147 mg. of picrotoxin in divided doses over a period of thirty-six hours.

Comment.—From the publications of Tatum et al^{4,5} it was estimated that 1 mg. of picrotoxin is antidotal for 30 to 40 mg. of a barbiturate derivative. Upon the basis that 1 mg. of picrotoxin is antidotal for 30 mg. of phenobarbital, we have calculated that the 147 mg. of picrotoxin given this patient was sufficient to counteract 4,410 mg. of phenobarbital.

As this patient took 3,900 mg. (60 grains) of phenobarbital she received sufficient picrotoxin according to this method of calculation.

(Continued on Page 332)

HISTORY OF MEDICINE IN MINNESOTA

HISTORY OF MEDICINE IN RAMSEY COUNTY

BY J. M. ARMSTRONG, M.D.

(Continued from April issue)

1869

Though not pertinent to a history of medicine in Saint Paul, it may be noted that the Minnesota State Eclectic Medical Society was incorporated on May 26. E. M. Morehouse, M.D., was chosen President; Dr. S. M. Morrison, vice president; N. L. Culver, recording secretary; Dr. L. F. Case, corresponding secretary; and Dr. Charles Lee, treasurer. The censors were A. F. Elliott, M.D., J. W. B. Wellcomb, M.D., E. M. Morehouse, M.D. Some were doctors, some M.D.s, and some apparently were neither. It would be interesting to secure further knowledge of this organization. On November 14, the Southern Minnesota Eclectic Medical Society was incorporated. It was a larger organization than the former, and most of the men mentioned above belonged to it.

The usual number of itinerant physicians were in evidence this year. The city was growing, and apparently the field appeared promising to them. Several additional reputable physicians settled in Saint Paul, the first being Dr. T. B. De Grosbois. He formed a partnership with Dr. Guernon, but that association lasted only a few months, and he remained but a short time. He was a graduate of McGill University. Next came Dr. Charles H. Boardman, son of the Rev. Henry A. Boardman, pastor of one of the Presbyterian churches. Dr. Boardman became a prominent member of the Ramsey County Society in later years. Dr. E. Lemire, who stated that he was a graduate of Victoria University at Montreal, late editor of the *Gazette Medicale* and late secretary of the Medico-Chirurgical Society of Montreal, came to enter practice in September. Apparently the outlook was not favorable for he left after two months. As a matter of fact, the French element in our population, which was quite large previous to 1860, had now dwindled to a small minority and most of them were in very moderate circumstances. It is doubtful whether there was more than a living for one man to be made from a clientele composed largely of persons of French Canadian extraction. In November, Dr. William Ray, who had left Chaska in 1868 for Missouri and had practiced also in Iowa, returned to Saint Paul. A Dr. William Banks came with him. In August, Dr. Guy D. Daly (or Daley), who had come the year before, was elected county physician, but he resigned in December, going to Duluth. A retired physician from Missouri named William Baldwin also came to Saint Paul this year for his health. He did a little practice and remained till the time of his death in 1886.

Among the advertising physicians who came to Saint Paul this year was one Robert Hunter, who hailed from New York. He was a most persistent advertiser and used a column at least once a week, printing lectures, recommendations, et cetera. He brought with him "Dr. Rudolph Schiffmann, late of the St. Louis City Hospital, who will also act as interpreter for such German patients as do

HISTORY OF MEDICINE IN MINNESOTA

not speak English." Doctor Schiffmann remained many years. He made a fortune selling a cure for asthma. A Dr. Hunter applied for membership in the Ramsey County Medical Society in 1870, but he was rejected unless he ceased his "objectionable practice." Probably this was Dr. Robert Hunter. Late in the year a Dr. J. M. McKelvey came to Saint Paul, but remained only a short time.

The income tax returns of Saint Paul physicians for the year ending May, 1869, are as follows. The figures include \$1,000 exempt:

A. G. Brisbine.....	\$1,094	D. W. Hand.....	\$1,138
S. D. Flagg.....	2,648	John Steele	1,722
J. H. Murphy.....	1,500	J. H. Stewart.....	4,685
Russel Post	4,559	A. Wharton	1,250
T. C. Schell.....	1,331	Samuel Willey	1,707
F. R. Smith.....	1,671		

In January, 1869, Col. D. A. Robertson began the publication of a magazine called *The Minnesota Monthly*. Thirteen numbers were published. It was largely devoted to agriculture. Every number, however, contained articles on household medicine or hygiene, most of them by Brewer Mattocks. In one of them Mattocks referred to Drs. Hunter and Duval as quacks and stated that the latter was in jail awaiting trial for the murder of his wife. In the number published in July, 1869, the following announcement was made:

Advertisements of quack medicines, gift enterprises, confidence games, clandestine obscenity and vice, and swindling nursery men and tree peddlers, humbug seeds, etc., etc., will be rigidly excluded.

There was considerable smallpox in Saint Paul during the first half of the year, about 125 cases being reported to the health office. In December the papers recorded that Dr. Hand performed Donder's operation of iridectomy for glaucoma, apparently the first time this operation had been performed in the city. There was a Dr. Somers in Saint Paul at this time and a Dr. F. Kerston. The latter was caught robbing George Presley's saloon. His office was upstairs.

Two deaths of physicians are recorded, that of John V. Wren, aged thirty-five, on December 11 at Magnolia, Mississippi; and B. L. Sellers at Wyalusing, Wisconsin, where he had resided for about two years. Both formerly lived in Saint Paul. Dr. Thomas E. Massey, who had resided in the city from 1857 to 1863, moved to Louisville, Kentucky. The following paragraph appeared in the papers on September 28:

Dr. Thomas J. Vaiden, who once owned ten thousand acres of land in Wisconsin and Minnesota and mortgaged nearly all to go into the milk business and never sold a pint of milk, is practicing his profession at Mt. Zion, Tenn. He is about publishing a 600-page book on his favorite subject of a Pure Republic vs. Imperialism, etc., a la "America Vindicated."

This was the Dr. Vaiden who came to Saint Paul in 1855 and left about 1866. Vaiden was a Virginian by birth and graduated from the University of Pennsylvania in 1831.

The narrative has now been carried to the year 1870. There seems to be no necessity of making a summary of the decade from 1860, but a few words perhaps may be said of the contributions to medical literature by Saint Paul physicians during these years. Only a few references, other than those already mentioned, can be found.

Dr. D. W. Hand, aside from his army reports, contributed an article on cholera, as he experienced it among the troops in 1865. Dr. Alfred Wharton reported

a case of "Puerperal Convulsions Treated with Chloroform," in the *Buffalo Medical and Surgical Journal* (Vol. I, No. 7, p. 213, February, 1862). Dr. Brewer Mattocks was author of an article on "The Effect of Climate upon the Lungs, with Special Reference to Minnesota" in the *Medical Record* for May 15, 1869. Dr. Samuel Willey contributed two articles: "Obstetrical Cases," in the *Cincinnati Lancet and Observer* (Vol. IV, No. 2, December, 1861), and "Dachylus Aculeatus" in the same journal (Vol. VI, N. S., p. 19, June, 1863). This last is an important communication as it is the first report of the finding of this parasite in the United States, and but one other case of infection has been reported in this country since. A number of articles written by physicians who later came to Saint Paul to reside may be found, but they are not included because these men were not residents at this time.

It seems worthwhile also to include here a bibliography of Thomas J. Vaiden, because listing his work gives us information as to his various places of residence, and many of them are not listed in the Surgeon General's Catalogue.

Treatise on Domestic Practice, Gainesville (Ala. ?), 1844, 8 vo.

Domestic Practice, Medical Tract to Illustrate Preceding Publications, Gainesville, 1844, 8 vo.

Commencement of a Practical System of Medicine, etc., Mobile, 1845, 8 vo.

Medical Companion, N. Y., 1852, 8 vo.

Medical Companion, Second Series, N. Y., 1852, 8 vo.

Rational Religion and Morals, etc., N. Y., 1852, 8 vo., by Thomas J. Vaiden of St. Louis

America Vindicated, N. Y., 1855, 12 mo.

Bible of Rational Mind and Religion, et cetera, Boston, 1876 (?)

A review of medical activities during the sixties should also include a further mention of the Saint Paul Academy of Medicine and Surgery, which was organized March 1, 1860, and incorporated June 10, 1861. This was the first local medical organization to be established in the county. The officers and members for 1860 were:

President—Thomas R. Potts

Vice President—A. G. Brisbane

Treasurer—John Steele

Secretary—Alfred Wharton

Members—D. W. Hand, Samuel Willey, William H. Morton, F. Rieger, and J. H. Stewart; Honorary Members, Paul B. Goddard, Philadelphia; Joseph Leidy, Philadelphia; John Watson, New York; John L. Atlee, Lancaster; George McCook, Pittsburgh; Erastus Cushing, Cleveland; and John H. Murphy, St. Anthony.

On May 7, 1861, an eight-page pamphlet containing the constitution and by-laws of the Academy was published. This gives the officers for that year: A. G. Brisbane, president; Samuel Willey, vice president; D. W. Hand, librarian; the secretary and treasurer were the same as in 1860. The constitution states that "No person shall be admitted to the fellowship of this Academy . . . until he exhibits . . . satisfactory evidence of his being a graduate of some respectable medical school, recognized by the National Medical Association." The initiation fee was twenty dollars. In addition to monthly gatherings, an annual meeting was required which should take place on the first Tuesday in May of each and every year. Added to the pamphlet is the following note:

"It affords the Secretary much pleasure to state, that at the termination of the first year of the existence of the Academy of Medicine and Surgery, it is in a most flourishing condition, and its permanent success established beyond the remotest doubt. Although numbering but nine members, and during a period of great monetary depression, the Academy is in

the possession of two spacious rooms, suitably furnished and well lighted with gas; has procured at no little expense, a superior microscope, an analytical chemical apparatus, and an electrical machine; for the skillful selection of all which the Institution acknowledges its indebtedness to the kindness of Dr. Paul Beck Goddard of Philadelphia.

"A medical library has been commenced, which bids fair to attain a very respectable size through the contributions of physicians and by purchase.

"The Treasurer reports:

Cash received during the fiscal year.....	\$620.72
Cash expended during the fiscal year.....	462.93
Balance on hand at end of year.....	362.07

"It may be mentioned that the Academy early adopted the Code of Ethics of the National Medical Association.

"On behalf of the Academy, the undersigned would most cordially invite physicians from abroad, upon visiting Saint Paul, to make themselves known to the members thereof who will show them every attention in their power.

ALFRED WHARTON, M.D., *Secretary*

"Saint Paul, Minn., May 7, 1861."

The Academy obtained the positions of city and county physician for its president, and the members took turns in filling those positions, the emoluments of these offices being turned over to the Academy. A respectable income was thus assumed, during the earlier years at least.

Had this organization been able to survive the vicissitudes of the Civil War, no doubt it would have been strong and powerful. The story of its demise will be found in the narrative for the year 1866. Apparently, there was no change in its officers after 1861. It was necessary that five members be present to constitute a quorum, and it is doubtful whether during the war years a quorum could be obtained. The rooms of the Academy were in French's Block on Third Street. French's Block was a three-story stone building on the north side about where the driveway to the Public Library now is. In 1860, George Benz' saloon occupied the ground floor. As far as is known, no new members were ever admitted to the Academy. There seems reason to believe that the Academy contemplated the erection of a building, for in 1864 a payment was made on a lot on Third Street. We may also regard the Academy as giving some instruction in medicine, as medical students were allowed the use of their library and laboratory under their preceptors. The Academy also fostered Dr. D. B. Reed's lectures on chemistry during his stay here in 1861 and 1862.

Medicine in Saint Paul since 1870

The collection of data relative to the history of medicine in Ramsey County previous to 1870 necessitated considerable research, as there was no local medical literature in our state except the reports of the State Insane Asylum.

In 1870, the publication of the transactions of our State Medical Society was begun and the publication of our first medical journal, *The Northwestern Medical and Surgical Journal*, by Dr. Alexander J. Stone of Saint Paul. The minutes of our Ramsey County Medical Society are also preserved. These sources of information, together with the files of medical journals established at a later date, the minutes of other local and state societies make the gathering of material for medical history from this time on a comparatively easy task. The writer feels the better plan of procedure from this time is to give a brief outline sketch of medicine in Saint Paul, and if a more detailed history is desired some other more gifted person should take up the task. For this reason no biographic sketches will be included, and men prominent in the Ramsey County Medical Society will be mentioned only by name. Biographic material may readily be found. The writer also will confine himself largely to the history of the Ramsey County

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Medical Society, since all physicians of prominence were members of it. It is true that there was a local and a twin city homeopathic medical society, but the followers of that cult never occupied positions of any prominence in medicine, and the more progressive among them were glad of the opportunity to be rated as physicians rather than homeopathic physicians. Before taking up the Ramsey County Medical Society a few incidents of general interest, not directly concerned with that Society, will be mentioned.

In 1870, Dr. Alexander J. Stone began the publication of the *Northwestern Medical and Surgical Journal*. Four volumes of this monthly journal were published. In 1872, the journal passed from his possession to Dr. Harry C. Hand, of Saint Paul and Dr. H. H. Kimball, of Minneapolis. Publication ceased in 1874. In 1881, Dr. Jay Owens founded the *Northwestern Lancet*, a bi-monthly publication, which later passed into the hands of Doctor Stone. After some years, it was sold and finally taken to Minneapolis. It has had a continuous and prosperous career since its beginning. In 1870, Dr. Stone founded the Saint Paul School for Medical Instruction. This school was designed to furnish more adequate and varied preparatory medical instruction than the preceptor system then in vogue. No degrees were conferred. The first faculty and officers of the school were:

Officers

President—Samuel D. Flagg
Treasurer—Charles E. Smith
Secretary—Alex. J. Stone

Board of Instructors

D. W. Hand—Surgery
Samuel D. Flagg—Materia Medica, Therapeutics and Diseases of Children
William Richeson—Anatomy and Chemistry
Brewer Mattocks—Physiology, Hygiene and Medical Jurisprudence
Charles E. Smith—Principles and Practice of Medicine
Alex. J. Stone—Obstetrics and Diseases of Women

In 1871, H. C. Hand taught pathology and J. B. Phillips, chemistry. In 1879, this school became the Saint Paul Medical College which was at one time affiliated with Hamline University. Classes were graduated and degrees conferred. In 1888, this school and the Minnesota College Hospital of Minneapolis gave up their charters when the Medical Faculty of the University of Minnesota became a teaching body. The history of medical instruction in Minnesota will be taken up in another portion of this book.

An event of considerable importance to the medical profession took place in Saint Paul in 1874. The Legislature of 1874 passed an abortion law, largely at the instance of the State Medical Society. Unfortunately, the law provided that an antemortem statement made under the belief of impending death was absolute proof of commission of abortion. The first fruit of this law was the conviction on June 9 of Dr. Jay Owens, who it was alleged, induced a pregnant female to take a medicine known as "Clark's Female Periodical Pills," and abortion followed. Owens was not allowed to introduce any testimony whatever, and was sent to the state prison. In November, Cushman K. Davis, who was Owen's attorney, was elected Governor and his first official act when he took office the following spring was to pardon Owens. The Legislature of 1875 then amended the law so that "no conviction shall be had upon the uncorroborated evidence of the woman." The first law made conviction easy, the modification made it difficult. In most states, no special rule of evidence for cases where abortion is charged exists, but the ordinary rule of evidence prevails. At the May, 1892,

HISTORY OF MEDICINE IN MINNESOTA

meeting of the Ramsey County Medical Society, the subject of abortion was discussed and resolutions were passed to bring this matter before the State Medical Association at the meeting of that year, and to have the Association recommend to the Legislature the repeal of the law of special rule of evidence. The failure of the State Association to take action was probably due to the fact that many of the members felt that there was some personal animosity back of the attempt to change the law. At the time of his conviction, Dr. Jay Owens was associated with Dr. Alexander J. Stone. Doctor Owens, after his release from prison, continued to practice medicine in Saint Paul, and in 1886 was elected president of the Ramsey County Medical Society. He died on April 17, 1890.

About 1890, Dr. Walter Reed, U. S. A., was stationed in Saint Paul as surgeon of the department of the Dakotas. He and Dr. Louis B. Wilson, now of the Mayo Foundation and then a teacher in the Saint Paul High School, had a bacteriologic laboratory in the school. Doctor Wilson learned bacteriologic technic from Doctor Reed.

Regarding the various hospitals in Saint Paul, only St. Joseph's and St. Luke's existed prior to 1870. The history of their establishment has already been noted. St. Joseph's Hospital has occupied its present site since the beginning. St. Luke's Hospital was incorporated in 1855 and re-incorporated in 1866 under the name of the Christ Church Orphans Home and Hospital. It was then located at Park Place. In 1873, it was moved to the north side of West Fourth Street, west of St. Peter Street, and in the spring of 1874 a large house on the north side of Eighth Street, between Minnesota and Robert streets, was purchased from Mrs. Mary A. Robinson. The present site was occupied in 1892. Mrs. Mary A. Bradbury, who was matron of St. Luke's from 1880 to 1895, died in Los Angeles, California, on August 6, 1932, aged ninety-two years.

The Saint Paul Homeopathic Hospital was organized and located at 800 Agate Street in 1887. It had a short life. The Saint Paul Hospital was first known as Luther Hospital, and was founded by Dr. Edouard Boeckmann. This hospital has now passed out of existence.

The history of the other hospitals in Saint Paul may be found in Fifield's *American and Canadian Hospitals*. Various small and private hospitals have existed from time to time, but were and are of no importance.

(To be continued in June issue)

President's Letter

THE Minnesota State Legislature has adjourned. As individuals we may have been interested in many actions that came under consideration. As a group of doctors we were interested only in problems that involved the health of the people.

One reason why Minnesota is right at the top of all states in the Union in health is our past and present Legislative Committees, which have given us in more recent years the Basic Science Law and the Medical Practice Act, and which have consistently advocated beneficial health measures.

We have had many splendid men serving on our Legislative Committees throughout the history of the organization. John Armstrong's Historical Committee will testify to that. From the standpoint of practical achievement, however, a more positive era of health legislation began in recent years. Frank Savage served as chairman of the Legislative Committee for a period of time, also J. T. Christison and then W. L. Burnap, an unusually active president, secured the services of Herman Johnson. With Dr. Johnson were C. B. Wright, J. M. Hayes, S. H. Boyer, Charles Bolsta, F. J. Plondke, G. I. Badeaux, E. A. Eberlin. Space will not permit naming the entire list of faithful committee members through the terms of chairmanship of Drs. Savage, Christison, Johnson, and Sogge.

L. L. Sogge, our present chairman, had his training under Dr. Johnson and was with him from the start. The committee under his leadership has carried on as ably as if Dr. Johnson were living. Dr. Johnson, himself, always gave great credit for the success of the committee's work to Mr. F. Manley Brist, our legal adviser. In this he has been most strongly joined by Dr. Sogge and by all who know of Mr. Brist's fine work for the medical profession of Minnesota.

On May 31 the State Medical Convention will open with an excellent scientific program, a valuable public health exhibit, an unusual program of economics and a surprise entertainment by the Hennepin County Medical Society. Every member should arrange to attend this meeting.

GEORGE EARL, M.D., *President*,
Minnesota State Medical Association.

EDITORIAL

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BUSINESS MANAGER

J. R. BRUCE

Volume 22 MAY, 1939 Number 5

ORTHOSTATIC HYPOTENSION: DIFFERENTIAL DIAGNOSIS AND TREATMENT

MAN is enabled to assume the upright position because he is endowed with a delicate mechanism for adjusting his blood pressure to offset the hydrostatic effect of change in posture. This function of circulatory homeostasis is mainly a protective mechanism intended to prevent deprivation of oxygen of the central nervous system. The circulatory correction is accomplished through vasoconstriction and cardiac acceleration.

Orthostatic hypotension is a clinical syndrome in which the usual compensatory mechanism does not function efficiently; consequently, with

change to the upright position there is a marked decrease in systolic and diastolic blood pressure, resulting in cerebral anoxemia. The syndrome of orthostatic hypotension was first described clearly by Bradbury and Eggleston in 1925. They used the term "postural hypotension." However, the term "orthostatic hypotension" as suggested by Laubry and Doumer, seems preferable since it indicates the bodily position in which the hypotension occurs. Since 1925, about forty cases of the condition have been reported in the literature.

The exact nature of the failure of vasomotor control in orthostatic hypotension is as yet unknown. Because of the associated symptoms indicating dysfunction of the sympathetic nervous system (particularly hypohidrosis or anhidrosis and failure of normal cardiac acceleration), it is thought that the fault is in the sympathetic nervous system. The characteristic features of orthostatic hypotension are (1) a marked decrease in systolic and diastolic blood pressure on assuming the erect position, resulting in weakness or syncope; (2) localized or generalized hypohidrosis or anhidrosis; (3) failure of the normal compensatory increase in pulse rate on assuming the upright position; (4) increased distress of the patient during hot weather; and (5) secretion of larger amounts of urine in the recumbent than in the upright position.

The differential diagnosis of this condition involves separating it from other types of syncope, particularly simple syncope, syncope referable to sensitivity of the carotid sinus, syncope associated with hypersensitivity to cold, heart block, hypoglycemic reactions, and seizures of petit or grand mal. The presence of a postural hypotension should be suspected if the patient complains of weakness or syncope only after change to the upright position or after standing for a short time. The differential diagnosis is simplified by taking the patient's blood pressure in the recumbent and standing positions and demonstrating the presence or absence of a marked orthostatic decrease in blood pressure. The presence of hypohidrosis or anhidrosis and the failure of cardiac acceleration will differen-

tiate orthostatic hypotension from simple syncope and the syncope which follows prolonged rest in bed, in which conditions there also may be an orthostatic decrease in blood pressure. The syncope caused by hypersensitivity to cold is accompanied by a decrease in blood pressure which is not directly related to posture. The history or demonstration of urticarial swelling of the skin when the patient is exposed to cold will readily differentiate the syncope of hypersensitivity to cold from the syncope of orthostatic hypotension.

In the syncope of hypoglycemic reactions, of sensitivity of the carotid sinus, of heart block, or of petit mal seizures, the postural features of the syncope will not be prominent and the characteristic signs of these conditions, i.e., low fasting blood sugar, a hypersensitive carotid sinus, and electrocardiographic changes or electroencephalographic changes, can be demonstrated.

The treatment of orthostatic hypotension is directed toward the maintenance of the blood pressure above the level which produces symptoms. Those drugs which produce vasoconstriction have been the ones most commonly used. Among those reported to have been used with success are ephedrine, benzedrine, paredrine^{3,4} (beta-parahydroxyphenylisopropylamine), ergotamine tartrate, neosynephrine hydrochloride⁵ (levo-metahydroxy-phenyl-ethanol-methylamine hydrochloride) and pitressin (the pressor principle of the posterior lobe of the hypophysis).

It is of interest that none of the drugs used for the treatment of orthostatic hypotension are very effective in preventing the orthostatic decrease in blood pressure. They alleviate the symptoms by elevating the general blood pressure, so that when the orthostatic decrease does occur, the lowest pressure reached is still above the point where weakness or syncope would be produced. In this respect, the situation is the reverse of that obtaining in some cases of essential hypertension, in which the administration of certain vasodilating drugs will maintain the blood pressure at a lower level, but will not prevent the same range of reaction of the blood pressure to stimulation. Ephedrine has been the drug usually chosen for the treatment of orthostatic hypotension. However, paredrine hydrobromide and neosynephrin hydrochloride are reported to produce equally as good results as ephedrine without the undesirable accessory re-

actions caused by ephedrine. The undesirable accessory effects of ephedrine and benzedrine are nervousness and insomnia. The patient having orthostatic hypotension usually can tolerate larger doses of ephedrine than can other persons, and relatively large amounts of this drug may be administered without producing unpleasant accessory effects. The best drug to use and the amount of it required are individual questions; the treatment must be adjusted to the patient. Some of these drugs may stimulate sweating sufficiently. If the anhidrosis is especially annoying, pilocarpine hydrochloride may be administered by mouth.

E. A. HINES, JR.

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THE BARBITURATES AND LEGISLATION

THE last Minnesota State Legislature passed a law, similar to those already passed by some sixteen other state legislatures, limiting the sale of barbiturates to the public on prescription only. As far as the medical profession is concerned, the usual rules for the writing of a prescription apply; refills are not allowed without written or direct verbal authority from the prescriber. Physicians may be thankful that the inconvenience of writing refill prescriptions has been eliminated by legislation. This should make full coöperation on the part of the profession assured.

Although most physicians have encountered instances of the abuse of barbiturates, the article by Hambourger* must have been a revelation to many. It seems that at the meeting of the House of Delegates of the A.M.A. in June, 1937, a resolution was introduced on the evils resulting from promiscuous use of barbituric acid and derivative drugs. The resolution included the statement that "The evils of these drugs include habit formations, toxic cumulative action, their substitu-

*Hambourger, W. E.: A study of the promiscuous use of the barbiturates. *Jour. A.M.A.*, 112:1340, (April 8) 1939.

tion for alcoholic beverages for drunken episodes, their use for successful, as well as unsuccessful, suicidal attempts, their improper use being a recognized causative factor in many motor accidents and their improper use being a recognized etiological factor in some criminal assaults. . . . The report by Hambourger was limited to the phase of the use of barbiturates for suicidal intent and was published for the Council on Pharmacy. Some of the author's disclosures are startling and emphasize the need for legislation.

According to this author, more than 1,200,000,000 grains of barbiturates were sold in the United States in the year 1936. This, because of high United States duty, practically represents consumption in this country. What percentages are sold by druggists over the counter, dispensed by prescription, used for psychotics or for basal anesthesia, is unknown. At any rate, the total amount is much too much. United States Census Bureau figures show that in the five-year period, 1932 to 1936, inclusive, there were 634 suicides in the United States attributed to barbiturates—4.2 per cent of all suicides from poison. In 1936, 171 suicides were due to the barbiturates; 165 more classified as accidental deaths due to the barbiturates. It is, therefore, conservative to estimate some 300 suicides during 1936 from this cause. The number has probably increased since 1936.

The possession of large quantities of barbiturates is dangerous and should be classed with the possession of firearms. Either one being on hand is too convenient to use with suicidal intent during emotional upsets. There are probably as many unsuccessful as successful attempts at suicide by this means. Fully as serious a phase of the abuse of the barbiturates is the mental derangement reported at times from their habitual use. It would be instructive to know how many automobile accidents or criminal assaults are attributable to their use.

The medical profession has doubtless been to some extent responsible for the present vogue in sedation. Much of the need for sedatives could be avoided by a sensible restriction or elimination of stimulants such as coffee and nicotine. A realization of the enormous amount of barbiturates consumed should assure the coöperation of the profession in an attempt to reduce the use of these valuable drugs by careful prescribing.

LEGISLATION REGARDING BARBITAL

There is published herewith the complete text of the law enacted by the 1939 Minnesota Legislature on the subject of barbitol, the derivatives of barbituric acid, and preparations containing such substances. This law was sponsored in the Senate by Senator Wahlstrand of Willmar and Senator Oliver* of Graceville. In the House of Representatives it was introduced by Representatives Paige of Minneapolis, Eklund* of Duluth and the late Dr. Lowe of Pipestone.

Much credit is due Senator Wahlstrand for the passage of this law. His interest was due to the abuses attending the unrestricted sale, in drug stores, to children and barbiturate addicts of these various preparations. Senator Wahlstrand stated he had no desire to impose restrictions on the ethical practitioner of medicine and publicly commended the Minnesota State Medical Association for their assistance in drafting and passing the law. The law requires no special permits on the part of physicians nor does it call for any fee. It simply states that a physician must act "in good faith" in the prescribing, administering and dispensing of barbitol. Drug stores, however, cannot sell barbitol, as defined in the act, except on the prescription of a physician, dentist or veterinarian, as the case may be.

Every member of the Minnesota State Medical Association is urged to read this law, and particularly the provisions in reference to writing prescriptions. Remember! they cannot be refilled without your consent. The authors of this law are your friends—the measure is a public health act—do your very best to comply with it and to help in its enforcement.

Committee on Public Policy,
Minnesota State Medical Association,
L. L. SOGGE, M.D., *Chairman*.

An Act

Regulating the Sale, Gift, Order, Exchange, Distribution and Possession of Barbitol, Barbituric Acid, Its Compounds and Derivatives, and Providing Penalties for Its Violation.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF MINNESOTA:

Section 1. It shall be unlawful for any person, firm or corporation to have in his, or its, possession, or to sell, give away, barter, exchange or distribute barbitol, except on a written prescription of a doctor of medicine, doctor of dental surgery, or doctor of veterinary medicine, lawfully practicing his profession in this state.

Section 2. For the purposes of this Act, the word "barbitol" means: barbitol and any derivative thereof; diethylbarbituric acid; any alkyl, aryl, metallic or halogenated derivative of barbituric acid; veronal (barbitone); propional; ipral; dial; neonal (soneryl); sandoptal; amytal; phenobarbital (luminal); phandorn; noctal; allonal (which contains allylisopropyl-barbituric acid in combination with amidopyrine); medinal; any preparation, mixture or other substance containing any of the foregoing substances.

Section 3. No person other than a licensed pharmacist, shall sell barbitol, and then, only as provided in this act.

Section 4. For the purposes of this act, a prescription for barbitol is void unless (1) it is written in ink and contains the name and address of the person for

*Physicians.

EDITORIAL

whose use it is, intended; (2) it states the amount of barbitol to be compounded or dispensed, with directions for its use; (3) it contains the signature and address of the prescriber, and a designation of the branch of the healing art pursued by the prescriber, and (4) it shows the date when signed by the prescriber. Every licensed pharmacist who compounds any such prescription, shall at that time, mark it in ink so as to show that it has been compounded, and the date thereof, and he shall retain such prescription in a separate file for a period of not less than two years, open to inspection by any officer of the state, county or municipal government, whose duty it is to aid and assist with the enforcement of this act. No such prescription shall be refilled, except with the written or verbal consent of the prescriber, provided that the date of such consent must be recorded, in ink or indelible pencil, upon the original prescription by the pharmacist who refills the said prescription together with the name of said pharmacist, and provided further, that in event of verbal consent it must be direct from the prescriber to the said pharmacist. Every such pharmacist shall distinctly label the container with the directions contained in the prescription for the use thereof, and the following warning: "Use Only As Directed."

Section 5. (1) A licensed doctor of medicine, or a licensed doctor of dentistry, in good faith, and in the course of his professional practice only, may prescribe, administer, and dispense barbitol, or he may cause the same to be administered by a nurse or interne under his direction and supervision.

(2) A licensed doctor of veterinary medicine, in good faith, and in the course of his professional practice only, and not for use by a human being may prescribe, administer, and dispense barbitol, and he may cause the same to be administered by an assistant under his direction and supervision.

(3) Nothing in this act shall prohibit the sale to, nor the possession of, barbitol, by wholesale drug concerns, registered pharmacies, licensed pharmacists, licensed doctors of medicine, licensed doctors of dentistry, licensed doctors of veterinary medicine, or any bona fide hospital or other bona fide institutions wherein sick and injured persons are cared for or treated, or bona fide hospitals wherein animals are treated.

Section 6. Any person, firm or corporation that violates any provision of this act shall be guilty of a gross misdemeanor, and upon conviction thereof, shall be punished by a fine of not to exceed \$1,000 or imprisonment in the county jail for not to exceed one year or by both such fine and imprisonment.

Some of the preparations regulated under Section 4 of the Barbituric Law and which now must be dispensed only with a doctor's prescription written in ink are as follows:

Amytal Tablets	Calcitrine Syrup
Amytal Elixir	Cibalgin
Amytal Compound Capsules	Dial
Amytal C Acetylsalicylic Acid	Evipal
Amytal & Ephedrine Capsules	Evicyl
Amytal & Theamin Capsules	Epharbitol
Amytal Sodium Capsules	Ephedraphen
Amytal Sodium Suppositories	Iocalpral
Amytal Sodium Ampoules	Ipral Calcium
Epragen Capsules	Ipral Sodium
Barbital Tablets	Ipral Elixir
Allonal	Ipral Aspirin
Arcaps	Ipralidon
Alurate	Mebrol
Amidopyrine & Phenobarbital	Medinal Tablets
Aminophyllin & Phenobarbital	Neonal Tablets
Adalin Luminal	Neonal Compound
Amidoneonal	Neonal Elixir
Kres-Lumin	Nembutal Capsules
Luminal Tabs	Nembutal Elixir
Luminal Elixir	Nembutal Suppositories
Luminal Sodium Tablets	Nembutal & Aspirin
Luminal Sodium Ampoules	Ortal Capsules
Barbitone	Ortal Combinations
Bellergal	Peralga Tablets
Belladonal	Penobarbital
Barbella	Pentobarbital Sodium Capsules

MAY, 1939

Theodiatl Capsules
Tedral Tablets
Thebital Tablets
Theominal Tablets
Veronal
Dialacetin
Lumalgin
Lumodrin
Nembutal & Ephedrine Capsules
Novasural
Ortal Sodium Capsules

Ortal Ampoules
Phanodorm Tablets
Phenobarbital Sodium
Pentobarbital Sodium Suppositories
Sedabarb
Sedaphen
Theobromine Compound Tablets
Ethobral Tablets
Veronal Sodium
Ephatal Capsules

SAL TRAG FOR ARTHRITIS

AS AN herb remedy for arthritis, called Sal Trag, is being offered to the local profession, the following information may be of interest:

In June, 1924, the Federal Trade Commission at Washington reported that Sal Trag and Nue-Ovo were practically the same product. Sal Trag is the name given this remedy of secret composition when offered to the profession, and Nue-Ovo is the name given when it is sold to the public. Sal Trag is probably more concentrated. In 1929, the Food and Drug Administration reported in a notice of judgment that Nue-Ovo was misbranded because it was being sold under false and fraudulent therapeutic claims. At that time, the federal chemists declared that the preparation was a brown watery solution of extracts of plant drugs, including a laxative drug, a bitter drug, resin, saponin and caffeine, colored with caramel and preserved with sodium benzoate.

There is at least one report of a severe inflammation of both eyes, with a residual visual defect in a woman who had taken Nue-Ovo for arthritis. It is dangerous and not good practice to prescribe drugs of unknown composition, or containing ingredients, the action of which is not known.

Oral Pollen Preparations

Early last year the Chicago Society of Allergy issued a note of warning in reference to the use of oral pollen preparations, not only because of the probable numerous disappointments which might occur following the use of oral pollen preparations but also because of the possible dangers inherent in any new and unproved method of treatment. In *The Journal*, March 25, 1939, appears a new communication from the Chicago Society of Allergy. The Society is to be commended for its stand against the exploitation of a product for oral administration in the treatment of hay fever which may be not only beneficial but a decided economic loss to the patient. The difficulty of regulating dosage because of the difference in rate of absorption from the gastrointestinal tract alone is a serious objection to this mode of therapy. It will require considerable evidence to show by passive transfer work that pollen is absorbed in the doses intended. The Council on Pharmacy and Chemistry of the American Medical Association has accepted no pollen preparation proposed for oral administration. (*J.A.M.A.*, March 25, 1939, p. 1159).

MEDICAL ECONOMICS

Edited by the Committee on Medical Economics
of the

Minnesota State Medical Association

W. F. Braasch, M.D., Chairman

HOW SHALL MEDICAL CARE BE IMPROVED?

NO ONE would deny, least of all physicians, that medical care of the people of our country can and should be improved, but there is vast divergence of opinion as to how that improvement can be brought about.

Representatives of one school of thought reiterate the unverified and unverifiable statement that a third of our population receives inadequate medical care. This viewpoint seems to imply that the percentage of the population which receives inadequate medical care is immeasurably greater than it was in times past. Anyone whose experience covers a period of three or four decades knows emphatically that this is not the case. The innumerable projects to which physicians have given their services, including dispensaries, sanitariums, hospitals for crippled children and programs for prevention of communicable diseases have resulted in much wider and more effective distribution of medical care than formerly was available. The conquest of communicable disease, the constantly falling death rate from tuberculosis and the increasing span of life attest the efficacy of these services and denote an achievement that exempts the medical profession from a charge of incompetency, to say the least.

The list of achievements is long. What would life be today without vaccination for small-pox, immunization against diphtheria, antidiphtheritic serums, insulin, liver extract for pernicious anemia, antipneumococcus serums and, lately, sulfanilamide and sulfapyridine, to mention only a few agents and methods for control and cure of dreaded diseases?

Shrewd Gesture

It is a shrewd political gesture to proclaim the urgent need for wider distribution of medical agents and services. In like manner politicians have found it wise to declare for ham and eggs

every Thursday or for the Townsend plan, to secure their election, without any great concern about a source of revenue to finance such schemes or indeed, one suspects, without any serious intent of supporting such harebrained proposals after their election. If one opposes the Government's plan to secure a wider distribution of medical care, though subscribing to the worthiness of the objective, one is labeled a reactionary and accused of lack of humane instincts.

The fundamental reason the medical profession is opposed to socialized medicine as proposed by the present administration is its instinctive surmise that it has a political motivation. Those who compose the public are asked to accept the Government's apparent solicitude for their health as a purely altruistic gesture in no way related to their vote in the coming election. They are asked to forget that in one more respect the Federal Government will reach down and regulate one of their most precious prerogatives, namely, their relation with their physicians. They are asked to believe that appointments of physicians to care for their health will be based solely on competency, rather than on the basis of political expediency. They are asked to forget that bureaucracy in medicine is no different than it is in any other field, devouring too large a measure of their funds designed to provide for their medical care.

Only the Husks

The same public is asked to believe that a physician in a more or less regimented system will have the same incentive to make medical discoveries, to advance his medical knowledge, or to treat each patient with the same degree of thoroughness as he would if the present competitive practice based on free choice of physician existed. In a system of medical care dominated by governmental regulation, the citizen is

likely to wake up to find that he has sold his medical birthright for a mess of governmental pottage and to learn that he is receiving only the husks of medical care.

This is not to deny the need for adapting medical practice to changing medical needs. The medical profession is progressive and believes in the necessity of continual growth and adaptation. But it has a few fundamental beliefs as to the way those changes should be made. It believes that the change must be evolutionary and not revolutionary, if colossal mistakes are to be avoided. It does not believe that there is any substitute for local administrative responsibility for securing efficient medical services adapted to local needs. It believes that as a body it is better qualified than any other group of people to formulate plans for improvement of medical care in its own community, that it must have a vital part in the executive policies controlling any effective health program and, finally, that the freedom of a patient to select the physician of his choice is essential to any plan of governmental assistance in medical care and is an inalienable right of a patient in a free nation.

Profession Will Coöperate

I am sure that the medical profession will gladly coöperate with the Government in a program of better medical care that is based on these principles. Unless we have lost our faith in local self-government these principles are sound and are in keeping with the ideals on which our democracy is founded.

W. F. B.

EXPERIMENTS IN MEDICAL SERVICE

The leaven of reform is working in the ranks of medical organizations much as the New Deal politico-sociologists had hoped and planned. Propaganda has put across the grossly exaggerated claims of lack of medical care on public opinion and the politicians now are watching results. Believing that there is a popular demand for sickness insurance and in order to stop legislative demands, various state and local medical societies either have or are about to propose plans for sickness insurance. Spurred on by the apparent success of group hospital insurance, somewhat similar methods are being applied to medical care. Any plan which would

permit of an equable distribution of the costs of illness among patients and which would not alter the present system of medical practice would seem worth striving for. With this purpose in view, voluntary methods of sickness insurance are being offered to the public in many sections of the country. This in spite of the warning issued by most economists that voluntary systems of health insurance are doomed to failure and invariably lead to compulsory insurance.

How are these plans working out? It is, of course, too early to make any definite observations but difficulties are already developing to plague the sponsors. For instance, the health service system of medicine adopted in one large city, which started out bravely over a year ago, offering health care at bargain rates, gives evidence of having serious difficulties. The unit system of reimbursement for medical services rendered which was originally evaluated at \$1.00 is now reduced to about 18 cents. In other words, the overhead administrative costs have increased to such extent that the reduced net income leaves very little for the doctor. This is only one of many other unforeseen difficulties. The latest is that the drugless practitioners are insisting upon being added to the professional staff and, being a semi-public project, their demands have a good chance of being adopted.

Minnesota Is Fortunate

As Dr. C. B. Wright recently emphasized before members of our state medical society, no plan of unproven economic value which is being promoted for the purpose of preventing the legislative adoption of another plan is on a sound basis. There are too many factors which are bound to cause trouble in the plans which have been proposed so far.

We physicians in Minnesota are indeed fortunately situated. In the first place we have a well-trained profession, who are practicing good medicine to the satisfaction of the majority of the people. They have been most generous in giving medical care to the sub-economic groups and have made many sacrifices in these uncertain times. They believe that the present methods of distributing medical care will prove to be the best in the long run for all concerned. The great majority of the people of the state have not been greatly influenced by federal prop-

aganda so far, because they mistrust governmental medicine.

Our Courageous Colleagues

Let us then continue to remain as observers of the very interesting spectacle of federal efforts to force sickness insurance on the public on one side and on the other side watch the courageous efforts of our colleagues in various parts of the country charting the unknown seas of medical distribution. Let us be open-minded, however, and if any sound improvement on our present system proves to be worthwhile, by all means consider it. Slow and well considered evolution in the delicately balanced institution of medical practice would seem to be a logical course. In the meantime, let us concentrate on improving our methods of practice by systematic efforts to enlarge our knowledge of medicine. This is the best answer to public dissatisfaction.

W. F. B.

NEW CHOICE OF VENDOR CLAUSE

Many legislative enactments of great interest to physicians marked the notable 1939 session just concluded.

Among them is the Barbitol Law commented upon elsewhere in this issue of MINNESOTA MEDICINE. The Reorganization Law is also of special interest to physicians on two accounts. First, it puts the administration of all services involving medical care to relief clients and to recipients of social security aids in one department under one directing head. Thus the ground work is laid for elimination of long standing duplications, misunderstandings, overlapping and gaps in services. Second, it maintains the former status of the State Board of Medical Examiners as an independent board, independently supported by fees of licensed physicians. The original provisions of the bill called for a tax on the funds of all boards and likewise gave the administrator power to consolidate and otherwise regulate them. Long experience with this board as it has functioned under Minnesota's model basic science legislation and medical practice act has shown the wisdom of maintaining it as a self-sustaining agency.

Law Clarified

Of immediate personal importance to every physician in the state is the new choice-of-vendor

clause which was restated in the new relief law with a clarifying phrase which should end any further discussion as to its applicability to the services of the physician. As the law now reads the relief client is specifically guaranteed his choice-of-vendor for *services and supplies*.

The choice-of-vendor clause as written in the 1936 law ushered in a new era in the handling of medical relief in Minnesota. Whereas there had been free choice of physician for the indigent in a few counties before 1936, many other counties still retained the county physician system of care for the sick poor and his legal status was unquestioned.

Discussion: Complaints

With the new law and the subsequent interpretation of the Attorney General which definitely placed the physician as a vendor within the meaning of the law, the county poor physician became a thing of the past in all the counties that accepted state aid.

The question remained an issue, however, with county commissioners and welfare boards questioning the interpretation of the Attorney General in several quarters. Lively discussion of the merits of the free-choice-of-physician system have marked several county welfare board conferences of late and complaints have been voiced concerning the cost.

Trust Merited

The action of the legislature in clarifying and strengthening the choice-of-vendor clause, in the face of these discussions, constitutes a double reassurance to the physicians. It indicates first that the rights of the individual are still regarded as important rights by Minnesota legislators. It indicates, also, the trust which is reposed in the medical profession in Minnesota. This trust has been well justified, not only during the relief years but over all the years when the physician alone shouldered the burden of the sick poor in his locality with occasional and uncertain aid from the authorities.

It goes without saying that members of the Minnesota State Medical Association will cooperate heartily with county welfare boards to continue to merit that trust and to keep medical costs as low as possible in these difficult years of relief financing.

FOR A STUDY OF SEX CRIME

The bill providing for the apprehension of potential sex criminals was regarded by its sponsors and by both branches of the legislature as a preliminary step, only, in the control of the problem of sex crime.

The Minnesota State Medical Association and the Minnesota State Bar Association were named jointly by the House Judiciary Committee which recommended passage of the bill as "technically equipped to make invaluable recommendations towards the solution of this problem."

A resolution requesting that the State Bar Association and the State Medical Association appoint committees from each body to study the subject of psychopathic personalities and also that the committees so appointed transmit a report of their findings as well as their recommendations to the governor and to the House of Representatives at the beginning of the legislative session of 1941 was passed by the committee and subsequently transmitted to the secretary of the association.

These reports will be utilized to formulate further and additional legislation to cope adequately with this problem.

The request of the House Judiciary Committee will be presented to the Council of the Association at the annual meeting, May 31, June 1 and 2, in the Minneapolis Auditorium.

DIFFICULTY IN DULUTH

A new fee schedule with regulations and instructions has just been issued by the St. Louis County Welfare Board. After many years of close coöperation between physicians and welfare board in St. Louis County, this schedule has aroused a just resentment among those who have assisted in making St. Louis County the envy and admiration of many other localities in the state for the smoothness and efficiency of its system.

"It is the desire of the County Welfare Board," say the new instructions, "to maintain the contact of the private physician with his former patients who may now be county charges, but at the same time it expects the private physician to render dependable service and to *continually bear in mind the fact that it is the tax-*

payers' money that is being spent." Well, there are over a hundred physicians referred to in this community who are some of the taxpayers. They have been taking care of these people, who are now charges, down through the years, through good times and bad. Without a Welfare Board to watch over them and to tell them what it "expects" of them, physicians have rendered dependable service to these patients who are now, perhaps temporarily, receiving county aid. It sounds like a play of words to impress the public and also a bit dictatorial. Following the preamble quoted above, some of the absurdities of a fee schedule are listed such as "collar-bone fracture, \$7.50" and "clavicle fracture, \$25.00; nose fracture, \$12.50" and "nose broken, \$37.50," all of which suggests that physicians, "expected to render dependable service," were not consulted in the formulation of the fee schedule.

A. N. C.

"AIM: TO SAVE LIVES"

The effectiveness of the 1939 Co-Ordinated Medical and Public Health Program is measured to some extent by the response and coöperation it has evoked from Minnesota newspapers.

No newspaper has shown more intelligent interest in medical news and in public health education in general than the *Minneapolis Journal*. The editorial printed below appeared on Monday, April 3. It is reprinted here as evidence both of the coöperative spirit of the *Journal* and of the effectiveness of this new program:

Cancer Prevention

Time is an all-important factor in the arresting of any serious disease, and in none is early treatment more important than in cancer. For this scourge creeps up stealthily, like a thief in the night, and its early symptoms seldom cause alarm.

The State Medical Association is carrying on an educational campaign this month, to save lives from cancer. The disease caused 3,775 deaths in Minnesota last year, and was second only to ailments of the heart in fatalities. The job the medical men are undertaking is to make older persons conscious of the danger of cancer, so they will not hesitate to have diagnoses made whenever there is cause to suspect approach of the disease. Better still would be periodical check-ups. Physicians say that not more than 15 per cent of cancer cases are discovered in time for effective treatment. Given an earlier detection of cancer, fully half the deaths from this disease could be prevented.

MEDICAL ECONOMICS

The Women's Field Army Against Cancer, now conducting a membership drive, has the same purpose as that of the physicians. Both organizations are trying to overcome the foolish reluctance of so many persons to give the doctor a chance—to head off fatal illness by going to him in time. The efforts of these organizations deserve support and appreciation. Their aim is to save lives.

KNOW YOUR DRUGS

(Monthly Editorial Prepared by the Medical Advisory Committee)

From time to time your Medical Advisory Committee has brought to the attention of the members various conditions, arising in the treatment of patients, that are being used by these patients as reasons for bringing action in court against our membership. In the last months numerous cases have arisen from alleged malpractice in the use of the injection methods of treatment, the use of sclerosing injections in varicose veins, hemorrhoids, and hernias, the injection of serums without first finding out the reactions of the patient to such serums, the injections of the salts of arsenic and salicylates as well as other well known remedial agents.

Knowing this, it is well to remember that normal tissues can be harmed by these solutions and that some people are particularly allergic even to the smallest amount of some drugs.

It behooves the man making these injections and giving these treatments, therefore, not only to have a firm groundwork in the fundamentals of this method, but to be sure of the purity and accuracy as to dosage of the drug used, as well as the ability and financial standing of the manufacturer to back up any claims which they may make for the drug. Unscrupulous manufacturers are making extravagant claims which have no foundation in fact. You can well be made the unwilling victim of these claims.

In this day and age the best is still none too good. Know your drugs and know how and when to give them.

B. J. B.

CONFERENCE SPEAKERS

Speakers who are scheduled to participate in the Conference on Medical Problems which oc-

cupies the final day's sessions, Friday, June 2, of the 86th Annual Meeting at the Minneapolis Auditorium, are authorities in their fields. All are making definite contributions to the solution of medical and public health problems in America.

Gen. C. E. Waller of the United States Public Health Service is Surgeon-General Thomas Par- ran's right hand man in Washington and in the field. He is one of the key men in the program of the public health service.

Dr. F. W. Jackson of Winnipeg has been deputy minister of health of Manitoba (the minister, himself, is an elected official and a layman) for many years. He has watched the development of Canada's experiments with new technics of medical service and he has officially represented the medical profession in this development.

Mr. J. G. Crownhart, secretary of the Wisconsin State Medical Society, has made one of the most important contributions of our time to American knowledge of socialized and state medical systems in Europe. He is also leading his organization in a fight against the corporation income tax which may be of the utmost importance to every state medical association in the United States. The Wisconsin society won its initial legislative battle in a state skirmish for socialization of medicine in the Wisconsin legislature last year.

The Rt. Rev. Monsignor M. F. Griffin of Cleveland is Senior Trustee of the American Hospital Association and an active official in the Catholic Hospital Association, powerful defender of private and voluntary investment in our system of care for the sick.

Mr. J. A. A. Burnquist, attorney general of the State of Minnesota, is also a former governor of the state and exceptionally well qualified to talk on the history and character of Minnesota's legislation for care of the sick poor.

Dr. F. Stuart Chapin is chairman of the Department of Sociology of the University of Minnesota, director of the graduate school of social work and a nationally recognized authority on social needs and social problems, among which the problem of distribution of medical care has loomed large as a result of events of the last few years.

OF GENERAL INTEREST

In addition to these guest speakers, Dr. W. A. O'Brien, the association radio speaker, and President George Earl, will be present to represent Minnesota physicians, with Dr. Frank Savage of Saint Paul, and Dr. W. F. Braasch of Rochester, as presiding officers.

The program is unique, the conference the only one of its sort to be held this year by any state medical association. Every physician in Minnesota should make it a special point to attend.

MINNESOTA STATE BOARD OF MEDICAL EXAMINERS

Mankato Physician Enters Plea of Guilty

Re: State of Minnesota vs. Arthur W. Eckstein, M.D.

On April 8, 1939, Arthur W. Eckstein, M.D., of Mankato, Minnesota, entered a plea of guilty to an information charging him with the crime of abortion committed on or about October 15, 1938, in the city of Mankato. Dr. Eckstein was also arraigned on a previous conviction (1934), and at the conclusion of which he was sentenced by the Honorable Harry A. Johnson, Judge of the District Court, to a term of not to exceed four years in a state penal institution. The Court was advised by legal counsel for the defendant that Dr. Eckstein's license to practice medicine had been revoked by the Minnesota State Board of Medical Examiners on December 16, 1938, for procuring, aiding and abetting a criminal abortion. Counsel also stated that Dr. Eckstein was employed by a wholesale pharmaceutical house of Milwaukee, Wisconsin, and that he was engaged in sales work for that concern in the eastern half of Iowa. Following a lengthy plea by Dr. Eckstein's lawyer, the Court suspended the sentence and placed Dr. Eckstein on probation in charge of the State Board of Parole. The Court warned Dr. Eckstein that in 1934 he had served a sentence in the State Prison for a similar offense, and that any violation of his probation, would result in his having to serve the entire sentence.

Dr. Eckstein was born at New Ulm, Minnesota, December 8, 1888. He graduated from the Medical School at Northwestern University in 1912. He was first licensed in Minnesota, by examination, in the same year, but had his license revoked in 1934, following his pleading guilty to a similar offense. Despite the fact that he was permitted, upon his release, to take the medical examination for a new license, and was subsequently granted a license, he again became involved with the law over the performing of a criminal abortion, resulting in the present criminal charge and the revocation of his license by the Medical Board on December 16, 1938.

MAY, 1939

OF GENERAL INTEREST

Dr. and Mrs. Daniel A. MacDonald left April 30 on a European trip. They will return July 1.

* * *

Dr. R. E. Cooper is the newly-elected school board member of the community at Sauk Center, Minnesota.

* * *

Dr. C. F. Wohlrahe, formerly of Minneapolis, has taken over the practice and hospital previously attended by Dr. M. H. Larson, at Nicollet, Minnesota.

* * *

Dr. S. D. Wolsztajn, who was previously associated with Dr. O. Daignault at Benson, has opened an office in Minneota for the practice of medicine.

* * *

Dr. A. F. Dworak is now practising medicine and surgery at Rosemount, Minnesota, where he opened offices in the Geraghty Building on Monday, April 17.

* * *

Dr. David Gaviser has recently associated himself with Dr. R. F. Werner, of International Falls. Dr. Gaviser was formerly on the staff of Minneapolis General Hospital.

* * *

Dr. Lynn Hammerstad, Windom, Minnesota, recently was appointed by federal authorities to serve as federal medical examiner of students registering for courses in aviation at the University of Minnesota.

* * *

Dr. Robert B. Tudor, of Minneapolis, joined Dr. J. F. Cumming of Morris, Minnesota, the first of April, in the practice of medicine. Dr. Tudor has come to Morris after serving internships at several hospitals in the Twin Cities.

* * *

Motion pictures, through the courtesy of General Electric Company, were shown at the meeting of the Rice County Medical Association held April 5 in the Faribault Clinic Rooms. The movies portrayed the electro-cardiographic process.

* * *

Dr. P. J. Bursheim, who for some time past has been in the retail drug business at Atlantic, Iowa, has resumed his practice of medicine in the community of Exira, Iowa. Prior to his entering the drug business, Dr. Bursheim served the community of Lake Benton, Minnesota, as physician and surgeon.

* * *

Charles Bishop Will of Bertha, Minnesota, received his degree of Doctor of Medicine at the early spring

OF GENERAL INTEREST

commencement held recently at the University of Minnesota. For the past year, Dr. Will has been serving an internship at Saint Luke's Hospital in Duluth. He will practice medicine at Ladysmith, Wisconsin.

* * *

Dr. M. G. Franta, Sauk Center, Minnesota, was appointed in March to take applications from young men who wish to enter one of the camps provided by the federal government for young men from the ages of 17 to 24 years. Dr. Franta's title in this capacity is chairman of the Seventh Corps Area, Citizens' Military Training Camps.

* * *

Dr. Gerald Taylor Evans, Assistant Professor of Physiological Chemistry, Yale University, has been appointed Associate Professor of Medicine and Director of Chemical and Metabolic Laboratories, University Hospital, University of Minnesota. Dr. Evans received his M.D. degree from McGill University in 1929 and his Ph.D. in Medicine from the University of Pennsylvania in 1936.

* * *

After more than forty-four years of service, Dr. G. E. Vaughan, of Winnebago, has made known his intention to retire from the practice of medicine. He has removed his offices from the Germain Building in Winnebago, to his residence, where he will care for those patients who especially wish him to attend them in their illness. He expects to have withdrawn entirely from active practice by next fall.

* * *

"Polypoid Disease of the Colon" is the title of Dr. R. F. Hedin's prize-winning essay which won for him the sum of \$250.00, awarded by the Chicago Surgical Society for his report on original clinical investigative work. The paper will be presented before the Chicago Surgical Society on May 5. Dr. Hedin, who has been doing graduate work in Chicago, will return this summer to Red Wing to resume his practice.

* * *

The Saint Paul Surgical Society was host to prominent physicians from Chicago, Milwaukee, Duluth, Rochester, and Minneapolis, at its annual dinner on Thursday evening, April 13, in the Minnesota Club. Dr. Loyal Davis, professor of surgery at Northwestern University, Chicago, and well-known writer of medical treatises, was principal speaker of the occasion. Dr. W. C. Carroll is president of the Saint Paul Surgical Society.

* * *

Drs. George A. Earl and Everett K. Geer were principal speakers at the regular monthly meeting of the Washington County Medical Society held Tuesday evening, April 11, in the society's club rooms at Stillwater. Dr. Earl discussed in detail modern technics in the diagnosis and treatment of cancer of the gastrointestinal tract. Dr. Geer gave an illustrated lecture

based on seventy-three x-ray plates of the chests of positive Mantoux reactors.

* * *

Professor August Krogh and his wife, Dr. Marie Krogh, of the University of Copenhagen, were guests of the Medical School of the University of Minnesota for ten days (March 25 to April 4). During their visit Professor Krogh presented lectures and seminars on the following subjects: "Osmotic and Ionic Regulation in Animals," "Circulatory Adjustment to Posture in Man," and "Comparative Physiology of Respiration." Dr. Marie Krogh presented a lecture on "Nutritional Problems in Denmark."

* * *

Dr. L. H. Rutledge of Detroit Lakes was named chief of staff at Saint Mary's Hospital there, when nine doctors of the county convened Tuesday, March 21, to hold a hospital staff organization meeting. Drs. O. O. Larsen and Arnold Larson were named vice president and secretary, respectively. Drs. J. E. Carman, A. E. Sprafka, H. W. Arndt, A. R. Ellingson, all of Detroit Lakes, G. G. Haight of Audubon, and C. W. Moberg of Lake Park, are also staff members of the hospital. Sister Monica superintends the institution.

* * *

The Itasca County Welfare board and hospital commissioners have made the following appointments for the ensuing year: Dr. M. J. McKenna, Grand Rapids, county surgeon; Drs. J. H. Bender, Bigfork; Dr. G. A. Miners, Deer River; Dr. G. M. Erskine, Grand Rapids; Dr. E. K. Rowles, Coleraine; Dr. J. C. Fueling, Bovey; Dr. E. T. Plowman, Marble; and Dr. E. H. Loofbourrow, Keewatin, as county physicians for their respective localities; Dr. C. E. Sisler, Grand Rapids, as house physician for the county home and infirmary. Appointed to act on the board of examiners for the University Hospital are Dr. M. J. McKenna and Dr. C. E. Sisler.

* * *

The fiftieth annual Founders' Day dinner of the Psi chapter of Alpha Kappa Kappa was held at the Kahler Hotel in Rochester, Minnesota, on Saturday, April 22. Drs. A. E. Brown, chairman, E. A. Addington, W. F. Braasch, M. W. Comfort, V. S. Counsellor, E. J. Kepler, J. S. Lundy, H. W. Meyerding, L. W. Pollock, M. C. Piper, Waltman Walters, and H. W. Woltman were members of the committee in charge which arranged for the all-day program preceding the banquet. In the morning, clinics were held in various hospitals of the city. A noon luncheon followed at the Mayo Foundation House, with the initiation of thirteen new members of the chapter. Clinics were resumed in the afternoon. Undergraduate members of the fraternity from the University of Minnesota attended in a body. Many physicians from Saint Paul and Minneapolis drove to Rochester for the occasion. Attendance was estimated at approximately 125.

IN MEMORIAM

In Memoriam

Finley C. Spates

1855-1939

DR. FINLEY C. SPATES, a practicing physician of Saint Paul for fifty-two years, passed away February 27, 1939, at the age of eighty-three.

Dr. Spates was born near Red Wing, Minnesota, December 27, 1855, and spent his boyhood on a farm. He studied at Carleton College, Northfield, and received his medical training at Hahnemann Medical College in Chicago, graduating in 1883.

Upon graduation Dr. Spates began practice at Milbank, South Dakota, but in May, 1884, moved to Saint Paul. On September 29, 1883, he was married to Carrie Belle Williams of Saint Paul. A resident of Dayton's Bluff, he served the Bluff area and outlying communities in Hazel Park, North Saint Paul, Highwood and Newport for fifty-two years. His was the sacrificial life which characterized the old-time family physician in the days when the horse and buggy were the means of travel. During his lifetime he did much obstetrical work.

Dr. Spates was a charter member of the East Presbyterian Church and was active in the Arlington Hills East Presbyterian Church with which it merged. He was a staunch Christian and carried out Christian principles in his medical practice as well as in his social and home life. He loved children and they constituted a large portion of his patients. He liked people and in turn was loved by his patients.

Dr. Spates is survived by his widow, two sons, Dr. Kenneth C. Spates of Saint Paul and Leland W. Spates of Van Nuys, California; two daughters, Mrs. R. L. Faulkner and Eleanor F. Spates of Saint Paul.

Thomas Lowe

1858-1939

DR. THOMAS LOWE, of Pipestone, Minnesota, for several years a member of the State House of Representatives, died, following an attack of influenza, March 12, 1939, at the West Side Hospital, Saint Paul.

Dr. Lowe was born at La Chute, Quebec, Canada, November 8, 1858. When he was thirteen years of age, his family moved to the United States and located in Bremer County, Iowa. In 1877, the family moved to Murray County, where the father and three of his sons took up homesteads.

After attending school in Decorah, Iowa, Dr. Lowe

taught school for a few years and then attended Hahnemann Medical College in Chicago, from which he was graduated in 1885. Upon receiving his medical degree, he returned to Murray County to practice, opening an office at Slayton. It was here that he met Sadie Southwell, who became his wife, on June 18, 1887. In 1904, the Lowes moved to Pipestone, where Dr. Lowe has since practiced.

In 1937, Dr. and Mrs. Lowe celebrated their golden wedding anniversary.

Throughout his long life, Dr. Lowe took an active interest in local and state politics. He was five times mayor of Pipestone. He served as commissioner of the Southwestern Minnesota Tuberculosis Sanatorium, and served on the Minnesota State Board of Medical Examiners for twenty years. He was a member of the Masonic, Woodman, Yeoman, and Knights of Pythias orders. When taken fatally ill, he was serving his second term in the House of Representatives and was very active in spite of his advanced age.

Doctor Lowe was the seat-mate of the only other physician in the House, Wm. J. Eklund, of Duluth. Dr. Lowe was chairman of the Committee of Public Health and Hospitals and represented his county on the important Appropriations Committee. Always fair and considerate, he was loved and respected by all members of the House. His clear thinking and ability came from his long service in the practice of medicine.

While actively engaged in the above-named organizations, he yet found time to take several postgraduate courses in New York; at one time serve as president of his local society, the Southwestern Minnesota Medical Society; and hold memberships in the Minnesota State and American Medical Associations.

Surviving Dr. Lowe are Mrs. Lowe and four children: Mrs. Raymond Hughes of Mankato; Margaret of Pipestone; William of Saint Paul; and Duncan of Weslaco, Texas.

MEDICAL BROADCAST FOR MAY

The Minnesota State Medical Association Morning Health Service

The Minnesota State Medical Association broadcasts weekly at 11:00 o'clock every Saturday morning over Station WCCO, Minneapolis (810 kilocycles or 370.2 meters) and Station WLB, University of Minnesota (760 kilocycles or 395 meters).

Speaker: William A. O'Brien, M.D., Associate Professor of Pathology and Preventive Medicine, Medical School, University of Minnesota. The program for the month will be as follows:

May 6—Prenatal Care
May 13—First Year of Life
May 20—Prematurity
May 27—Prenatal Care of Teeth

MINNESOTA STATE MEDICAL ASSOCIATION

Eighty-sixth Annual Session

May 31, June 1 and 2, 1939

Minneapolis, Minnesota

Officers and Committees

President—GEORGE EARL.....St. Paul
Past President—J. M. HAYES.....Minneapolis
First Vice President—J. C. JACOBSON.....Willmar
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Committee on Scientific Assembly

GEORGE EARL, President.....St. Paul
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MR. R. R. ROSELL, Executive Secretary.....St. Paul

Section on Medicine

J. ALLEN WILSON.....St. Paul
J. A. MYERS.....Minneapolis
B. O. MORK, JR.....Worthington

Section on Surgery

V. S. COUNSELLER.....Rochester
F. H. MAGNEY.....Duluth
CHARLES BOLSTA.....Ortonville

Section on Specialties

W. A. O'BRIEN.....Minneapolis

Committee on Local Arrangements

General Chairman—A. E. CANDLE
General Advisory—GEORGE D. HEAD, W. H. AURAND, MOSES
BARRON, JAMES BLAKE, J. F. CORBETT, J. A. WATSON
Banquet—GILBERT THOMAS, C. E. ARLANDER, F. R. HIRSHFIELD,
F. J. KUCERA, D. A. MACDONALD, H. F. WAHLQUIST
Commercial Exhibits—T. H. SWEETSER, RUTH BOYNTON, W. R.
JONES, E. J. LILLEHEI, W. G. SCHAEFER, NORA WINTHER
Golf—H. M. LEE, A. E. BENJAMIN, L. R. BOIES, R. R. CRAN-
MER, L. O. DOYLE, E. G. NYLANDER
Hotel Reservations—H. W. CHRISTIANSON, F. G. BENN, E. J.
BORGESON, H. E. HOFFERT, F. B. MACH, O. F. ROBBINS
House Arrangements—C. C. KENNEDY, A. N. BESSESEN, JR.,
C. O. HANSEN, A. B. JOHNSON, M. E. KNAPP, J. T. LAPIERRE,
J. H. TAYLOR
Public Relations—GILBERT COTTAM, H. S. DIEHL, F. E. HAR-
RINGTON, A. J. HERBOLSHMEIER, F. A. OLSON, T. W. WEUM,
S. M. WHITE
Reunions—H. G. SCOTT, S. L. AREY, H. G. BENJAMIN, REUBEN
ERICKSON, W. A. FANSLER, R. R. KNIGHT
Scientific Exhibits—C. A. MCKINLAY, P. A. ANDERSON, R. P.
CARON, T. J. KINSELLA, M. C. PFUNDER

Announcements

Luncheons.—Twenty Round Table Luncheons have been arranged at the Hotel Curtis for this meeting, ten on Wednesday, May 31, and ten on Thursday, June 1. List of subjects and leaders for these luncheons have been sent to all members. Tickets must be purchased in advance for these luncheons. Attendance at each luncheon is limited to 20 and late comers will be accommodated according to their choice if limits have not already been reached. Price of luncheon tickets, \$1.00.

Public Health Exposition.—The first Public Health Exposition ever sponsored by the Minnesota State Medical Association will open in the Auditorium basement Wednesday, May 31, and close Saturday, June 3. Admission will be by ticket but without entrance fee. Hours: 10 a.m. to 10 p.m. Special tours have been arranged during the day for the Minneapolis school children. Public Health lectures and moving pictures on popular subjects are scheduled each afternoon and evening. The Minnesota Department of Health, the Minneapolis City Health Department, the University of Minnesota and other official and voluntary welfare

agencies are coöperating with the Minnesota State Medical Association in this Exposition. Every physician is urged to view this Exposition as well as the Scientific and Technical Exhibits on the floor above.

Annual Banquet.—The annual dinner for members and their wives will be held in the Auditorium, Thursday evening, June 1, at 7:30 p.m. Governor Harold E. Stassen will give the banquet address. Entertainment arranged by the Hennepin County Medical Society will follow the dinner.

The Southern Minnesota Medical Association will present a medal, following its annual custom, to the individual physician who presents the best scientific exhibit at this meeting. Judges will be selected from among distinguished out-of-state visitors. The award will be made at the Annual Banquet at the Hotel Curtis Thursday evening.

Golf Tournament.—The annual Golf Tournament will begin Friday at 1 p.m. at the Interlachen Country Club. Registration for the tournament should be made at the Registration Desk. Entrants may make up their own foursomes or apply to the Chairman, H. M. Lee, 1427 Medical Arts Building, Minneapolis, for partners. Attractive prizes have been donated for the winners.

Fracture Dinner.—One representative from each county and district society has been invited to attend a dinner at 6:30 p.m. Wednesday for the purpose of organizing fracture committees in each component medical society in the state. Charles L. Scudder of Boston will talk on "Duties of a Local Fracture Committee."

Fracture Meeting 8 P. M.—Following the dinner, Dr. Scudder will address a meeting in the East Room of the Hotel Curtis on "Fractures as a State Medical Association Problem." Open to all physicians.

The Minnesota Radiological Society will give a dinner at 6:30 p.m. Wednesday, May 31, at the Hotel Nicolle in honor of W. Edward Chamberlain of Philadelphia. Dr. Chamberlain will give the Russell D. Carman Memorial Lecture at 4 p.m. Wednesday.

The Trudeau Society will hold a dinner meeting Wednesday, May 31, 6:30 p.m. at the Hotel Nicolle. Dr. Robert G. Bloch, Chicago, whose appearance on the Thursday afternoon program is sponsored by the society, will be the principal speaker.

An American College of Surgeons breakfast will be held Friday morning at 7:30 a.m. at the Hotel Curtis. Members from Minnesota and adjacent states are invited to attend. Dr. Malcolm T. MacEachern, Chicago, Associate Director of the American College of Surgeons, will speak.

Visiting Speakers

ROCK SLEYSER, Wauwatosa President-elect of the American Medical Association, Medical Director Milwaukee Sanitarium.

ANDREW C. IVY, Chicago, Nathan Smith Davis Professor of Physiology and Pharmacology. Head of the Division at the Medical School of Northwestern University. Consultant Passavant Hospital, Chicago. Sponsored by the Northern Minnesota Medical Association.

EIGHTY-SIXTH ANNUAL SESSION

JOSEPH STOKES, JR., Philadelphia, Associate Professor of Pediatrics, University of Pennsylvania School of Medicine. Sponsored by the Northwestern Pediatric Society.

W. EDWARD CHAMBERLAIN, Philadelphia, Professor Radiology and Roentgenology, Temple University School of Medicine. Sponsored by the Minnesota Radiological Society. Dr. Chamberlain will deliver the annual Russell D. Carman Memorial Lecture.

CHARLES L. SCUDDER, Boston, Consulting Surgeon to the Massachusetts General Hospital. Formerly Assistant Professor of Surgery, Harvard Medical School.

EVERETT D. PLASS, Iowa City, Professor of Obstetrics and Gynecology, State University of Iowa, College of Medicine.

THOMAS FRANCIS, JR., New York, Professor of Bacteriology, New York University, College of Medicine. Sponsored by the Minnesota Society of Internal Medicine.

ROBERT G. BLOCH, Chicago, Associate Professor Medicine, School of Medical Division of Biological Sciences, University of Chicago. Sponsored by the Trudeau Society.

F. W. JACKSON, Winnipeg, Deputy Minister Health and Public Welfare of Manitoba.

MONSIGNOR MAURICE F. GRIFFIN, Cleveland, Catholic Hospital Association.

MR. J. G. CROWNHART, Madison, Executive Secretary of the State Medical Society of Wisconsin.

THE HONORABLE HENRIK SHIPSTEAD, United States Senator.

ASSISTANT SURGEON GENERAL C. E. WALLER, Washington, United States Public Health Service.

BUSINESS PROGRAM

Hotel Curtis

Tuesday, May 30

4:00 P.M.—CouncilRoom B
4:00 P.M.—Reference Committees
8:00 P.M.—House of Delegates.....East Room

Wednesday, May 31

7:30 A.M.—CouncilRoom B
12:15 P.M.—House of Delegates.....East Room

Thursday, June 1

7:30 A.M.—Council.....Room B
5:00 P.M.—Installation of Officers.....Auditorium
Report of Secretary

SCIENTIFIC PROGRAM

Wednesday, May 31

Morning Session—8:30 A. M.

Scientific Cinema

Scalenotomy for Cervical Rib

Alton Ochsner, New Orleans

Announcements

George Earl, St. Paul

Complete Fracture Demonstrations, Patients, Histories, Slides and X-rays

O. W. Yoerg, Minneapolis

V. P. Hauser, St. Paul

H. W. Meyerding, Rochester

Scientific Cinema

Some Practical Pointers on the Treatment of Intracapsular Fractures of the Neck of the Femur

W. D. White, Minneapolis

E. C. Henrikson, Minneapolis

Bile Salt Therapy in Gall Bladder Disease

Andrew C. Ivy, Chicago

MAY, 1939

Headaches

H. W. Woltman, Rochester

Treatment of the Mental Defective

E. J. Engberg, Faribault

Round Table Luncheons—12:15 P. M.

Newer Drugs

Leader—R. N. Bieter, University of Minnesota

Surgery of the Stomach (Indications for Various Procedures)

Leader—W. C. Carroll, St. Paul

Surgery of the Small Bowel

Leader—O. H. Wangenstein, University of Minnesota

Treatment of Sterility

Leader—C. J. Ehrenberg, Minneapolis

Operative Treatment of Fractures

Leader—Charles L. Scudder, Boston

Peptic Ulcer

Leader—Andrew C. Ivy, Chicago

Allergy

Leader—R. V. Ellis, University of Minnesota

Methods of Immunization Against Acute, Contagious and Infectious Diseases

Leader—Joseph Stokes, Jr., Philadelphia

Treatment of Medical Emergencies

Leader—H. E. Richardson, St. Paul

Roentgenography of the Chest

Leader—W. Edward Chamberlain, Philadelphia

Afternoon Session—1:30 P. M.

Scientific Cinema

Metrazol Treatment for Psychoses

G. N. Ruhberg, St. Paul

Treatment of Mycotic Dermatitis

H. E. Michelson, Minneapolis

Treatment of Atopic Dermatitis

E. M. Rusten, Minneapolis

Diagnosis and Treatment of Hemorrhagic Diathesis

C. H. Watkins, Rochester

Studies of Certain Respiratory Infections of Virus Origin

Joseph Stokes, Jr., Philadelphia

Scientific Cinema

Advances in Brain and Cord Surgery

A. W. Adson, Rochester

Russell D. Carman Memorial Lecture

Low Back Pain

W. Edward Chamberlain, Philadelphia

Introduction: W. H. Ude, Minneapolis

Evening Session—8:00 P. M.

Fracture Meeting

Presiding Officer, F. J. Elias, Duluth, Chairman Fracture Committee

Fractures as a State Medical Association Problem

Charles L. Scudder, Boston

Thursday, June 1

Morning Session—8:30 A. M.

Scientific Cinema

Inlying Graft for Hypospadias

V. S. Counseller, Rochester

Causes of Uterine Bleeding

J. L. McKelvey, University of Minnesota

Pelvic Pain

W. A. Coventry, Duluth

Adenomyomata

W. G. Benjamin, Pipestone

Treatment of Vaginal Discharges

Everett D. Plass, Iowa City

EIGHTY-SIXTH ANNUAL SESSION

Scientific Cinema

Fascia Transplant in Post-Operative Hernia
Hamlin Mattson, Minneapolis

Diagnosis of Virus Diseases

Thomas Francis, Jr., New York

Carcinoma of the Uterine Cervix

H. H. Bowing, Rochester

The Present Status of Trans-Urethral Resectionists:

Competent and Otherwise

F. E. B. Foley, St. Paul

Round Table Luncheons—12:15 P. M.

Traumatic Surgery

Leader—F. J. Elias, Duluth

Toxemias of Pregnancy

Leader—Everett D. Plass, Iowa City

Respiratory Diseases

Leader—Thomas Francis, Jr., New York

Contagious Diseases

Leader—C. A. Stewart, Minneapolis

Peripheral Vascular Disease

Leader—B. T. Horton, Rochester

Surgery of the Gall Bladder

Leader—J. M. Hayes, Minneapolis

Surgical Procedures in Malignancy of the Colon

Leader—C. F. Dixon, Rochester

Induction of Labor

Leader—J. R. Manley, Duluth

Fracture of the Hip

Leader—M. S. Henderson, Rochester

Treatment of Cataract

Leader—J. S. Reynolds, Minneapolis

Afternoon Session—1:30 P. M.

Scientific Cinema

Esophagoscopy

L. R. Boies, Minneapolis

Recurring Thyrotoxicosis after Thyroidectomy

O. J. Hagen, Moorhead

Dysphagia

N. Logan Leven, St. Paul

Perforating Peptic Ulcer

R. H. Wilson, Winona

Injuries of Eyes

D. L. Tilderquist, Duluth

Deformities of the Face Corrected by Plastic Surgery

G. B. New, Rochester

Scientific Cinema

Pathologic Physiology of the Common Bile Duct

Waltman Walters, Rochester

Unsuspected Pulmonary Tuberculosis

Robert G. Bloch, Chicago

Surgery of Pulmonary Tuberculosis: Indications and Results

H. A. Carlson, Ah-Gwah-Ching

Male Sex Hormones

M. H. Hoffman, St. Paul

Installation of Officers

Presiding: George Earl, President

Report of the Secretary

B. B. Souster, St. Paul

Evening Session—7:30 P. M.

ANNUAL BANQUET, AUDITORIUM

Toastmaster: George Earl

Introduction of Mrs. A. C. Baker, Fergus Falls, President, Women's Auxiliary

Presentation of Southern Minnesota Medical Association Medal

Address: The Honorable Harold E. Stassen, Governor of the State of Minnesota

Floor Show

Friday, June 2

CONFERENCE ON MEDICAL PROBLEMS IN MINNESOTA

Morning Session—8:30 A. M.

Scientific Cinema

Treatment of Burns

Grover C. Penberthy, Detroit

Keeping America Healthy

Asst. Surgeon General C. E. Waller, Washington

Medical Care and its Distribution in Canada

F. W. Jackson, Winnipeg

Scientific Cinema

Standard Obstetrical Routine

Lyle G. McNeile and Donald G. Tollefson, Los Angeles County Hospital

Personal Observations on Medical Plans in Europe

Mr. J. G. Crownhart, Madison, Wis.

Health of the People of Minnesota

W. A. O'Brien, University of Minnesota

Our National Investment in Health

Monsignor Maurice F. Griffin, Cleveland

Afternoon Session—1:30 P. M.

Scientific Cinema

Carcinoma of the Breast: Radical Amputation

S. W. Harrington, Rochester

Health and the American Standard of Living

F. S. Chapin, University of Minnesota

Minnesota Medical Legislation

The Honorable J. A. A. Burnquist, St. Paul

The Doctor and His Patient

George Earl, St. Paul

Professional Service and the Public Trust

The Honorable Henrik Shipstead, U. S. Senate

Picrotoxin Treatment of BARBITURATE INTOXICATION

(Continued from Page 310)

Conclusions

1. Animal experimentation and clinical trial have established some justification for the cautious use of picrotoxin in barbiturate poisoning.

2. In the presence of a known case of barbiturate intoxication, picrotoxin may be safely administered intravenously at the rate of 1 mg. per minute, for a total dosage of 9 mg. to 12 mg. at intervals of one-half hour to four hours.

3. The case here reported showed the first signs of return of consciousness when the "barbiturate equivalent" of picrotoxin had been administered.

4. The customary supportive measures must be carried out while treating barbiturate intoxication with picrotoxin and in addition each case must be observed closely and dosage of picrotoxin gauged according to clinical signs and response of the individual case.

References

1. American Medical Association: Present Status of Picrotoxin in poisoning by the barbiturates; Report of The Council on Pharmacy and Chemistry. Jour. Am. Med. Assn., 112:431-33, (Feb. 4) 1939.
2. Bleckwenn, W. J., and Masten, Mabel G.: The antidotal treatment of barbiturate intoxication. Jour. Am. Med. Assn., 111:504-506, (Aug. 6) 1938.
3. Kohn, Richard, Platt, S. S., and Saltman, S. Y.: The picrotoxin barbiturate antagonism. Jour. Am. Med. Assn., 111:387-390, (July 30) 1938.
4. Maloney, A. H., Fitch, R. H., and Tatum, A. L.: Picrotoxin as an antidote in acute poisoning by the shorter acting barbiturates. Jour. Pharmacol. and Exper. Therap., 41:465-482, (April) 1931.
5. Maloney, A. H., and Tatum, A. L.: Picrotoxin as an antidote in acute poisoning by the longer acting barbiturates. Jour. Pharmacol. and Exper. Therap., 44:337-352, (March) 1932.
6. Murphy, William S., Connerty, Harold V., Connolly, Aloysius J., and Koppányi, Theodore: Barbiturate poisoning treated with picrotoxin. Jour. Lab. and Clin. Med., 22: 350-356, (Jan.) 1937.

REPORTS and ANNOUNCEMENTS

FIELD CLINICS FOR CRIPPLED CHILDREN

Orthopedic surgeons from the Minnesota-Dakota Orthopedic Club are cooperating with the Division of Services for Crippled Children of the State Board of Control by serving again this year as orthopedic consultants at the field clinics for crippled children which are conducted annually by the Division. The first clinic of the spring series was held April 15 in St. Cloud with Drs. E. T. Evans and M. O. Henry, both of Minneapolis, as examining orthopedic surgeons. Drs. J. F. Pohl and J. H. Moe, also of Minneapolis, were in charge of the Morris Clinic, which was held April 22. The schedule for the remaining five clinics follows:

Willmar Clinic, April 29—Dr. V. L. Hart, Minneapolis; Mayo Clinic orthopedic surgeon.

Crookston Clinic, May 13—Dr. G. A. Williamson, Saint Paul; Dr. J. R. Kuth, Duluth.

Austin Clinic, May 20—Dr. C. C. Chatterton, Saint Paul; Mayo Clinic orthopedic surgeon.

Detroit Lakes Clinic, June 3—Dr. G. A. Williamson, Minneapolis; Dr. Wm. H. Von der Weyer, Saint Paul.

Aitkin Clinic, June 10—Dr. S. W. Shimonek, Saint Paul; Dr. M. H. Tibbetts, Duluth.

The purposes of field clinics for physically handicapped children in the state is to find new cases, to follow up old cases, to emphasize preventive health education, and to provide consultation services for the local family physician for his indigent crippled children patients. All physically handicapped persons under twenty-one years of age who cannot provide private medical care are eligible upon presenting a letter of referral from their family physician.

Cooperating also with the Division of Services for Crippled Children is the Division of Vocational Rehabilitation of the State Department of Education, which sends an expert from its staff to each clinic to give vocational guidance, and the Minnesota Public Health Association, which cooperates with the preliminary educational program.

RED RIVER VALLEY SOCIETY

Members of the Red River Valley Medical Society and their wives, numbering fifty-five, including a delegation from Thief River Falls, assembled at the Hotel Crookston Tuesday night for the annual dinner meeting of the society, followed by separate business sessions for the physicians and their auxiliary.

The meeting for the auxiliary held at the home of Mrs. G. A. Morley, was the annual business session, with election of officers and preparation of the group's report for the state medical auxiliary meeting next month. Mrs. S. H. Stuurmans of Erskine was named president of the auxiliary, succeeding Mrs. Baldwin Borreson, with Mrs. H. M. Blegen of Warren first

vice president; Mrs. G. W. Hohl of Ada, second vice president; Mrs. D. V. Boardman of Twin Valley, recording secretary; Mrs. H. H. Hedemark of Thief River Falls, corresponding secretary; and Mrs. C. L. Oppegaard of Crookston, treasurer.

The joint session of the physicians and their wives was featured by an address by Mrs. Virginia Liebeler, state director of the Minnesota Hospital Service Association.

After members of the auxiliary had adjourned to the home of Mrs. Morley, physicians heard an address by A. W. Aamodt, state supervisor for the Farm Security Administration, on the medical problem presented by the low income groups, operating on borrowed government capital and under the supervision of the FSA.

The meeting for physicians was concluded with the showing of three scientific films.

MINNESOTA HOSPITAL ASSOCIATION

The sixteenth annual meeting of the Minnesota Hospital Association will be held Thursday, Friday and Saturday, May 25, 26 and 27, 1939, in the St. Paul Hotel, St. Paul, Minnesota. Dr. Peter Ward, Saint Paul, president of the association, will preside. Thursday morning will be devoted to registration and a meeting of the Board of Directors. The regular business session will occupy the Thursday afternoon meeting, to be followed at 6:00 P. M. with a buffet supper at St. Joseph's Hospital.

Scientific papers presented by leading hospital authorities covering the different departments in a well organized hospital will occupy the session Friday morning. A noon luncheon at the Lowry Hotel will be addressed by B. W. Caldwell, M.D., Executive Secretary, American Hospital Association; M. T. McEachern, M.D., Associate Director, American College of Surgeons and President, International Hospital Association; and R. C. Buerki, M.D., President, American College of Hospital Directors.

Friday afternoon the following allied organizations will hold sessions: Minnesota Association of Nurse Anesthetists, Minnesota Dietetic Association, Minnesota Chapter—National Executive Housekeepers' Association, Minnesota Association of Hospital, Medical and Institution Librarians, Minnesota Society of Medical Technologists, Minnesota Occupational Therapy Association, Minnesota Chapter American Physiotherapy Association, Minnesota Record Librarians' Association. A General Session at 3:30 P. M. will consist of a round table discussion led by R. C. Buerki, M.D.

At the annual banquet to be held Friday evening the speakers will include Basil McLean, M.D., Superintendent, Strong Memorial Hospital, Rochester, New York; George Earl, M.D., President Minnesota State Medical Association; and Honorable Harold E. Stassen, Governor of Minnesota.

The meeting Saturday morning will include addresses on various phases of hospitalization to be followed by the final business session. A golf tournament at the White Bear Yacht Club will conclude the program in the afternoon.

WOMEN'S AUXILIARY

MRS. W. B. ROBERTS, Minneapolis, *President*

MRS. E. V. GOLTZ, 2259 Summit Avenue, Saint Paul, *Publicity Chairman*

The Annual State Convention which will be held in Minneapolis May 31 to June 2, inclusive, should draw many members from the various county auxiliaries. Registration will open May 30 from 4 to 6 p. m. at the Curtis Hotel and the following morning at 9 a. m. at the Curtis Hotel. Wednesday morning, May 31, the pre-convention executive board meeting will be held at the Leamington Hotel with a luncheon following for members of the board only. From 3 to 5 p. m. that day the members of the Hennepin County Auxiliary will entertain all auxiliary members at a tea in the Hennepin County rooms on the 20th floor of the Medical Arts Building. The evening will be devoted to the scientific and allied health displays in the Municipal Auditorium. Thursday, June 1, the annual State Auxiliary meeting will be held at 10 a. m. at the Interlachen Country Club. Those wishing to attend this meeting will find cars awaiting them at the Curtis Hotel at 9:15. A luncheon will be held at Interlachen following the meeting and cars will start from the Curtis Hotel at 12 o'clock noon for those who wish to attend the luncheon and not the annual meeting in the morning. At 6:30 p. m. members of the auxiliary will meet with the doctors at dinner at the Leamington Hotel. Friday, June 2, a sightseeing trip with a visit to the Sibley House at Mendota where luncheon will be served will conclude the convention program. Cars will leave the Curtis Hotel at 11 a. m. and will return guests to the hotel after luncheon. Hennepin County extends a very cordial invitation to all members to attend and it is hoped that there will be a large attendance.

* * *

Our state president, Mrs. Wm. B. Roberts, presided at the recent meeting of the Women's Field Army of the American Society for the Control of Cancer, held in Saint Paul. "Civilization Against Cancer" was the theme of the meeting. The Winona Auxiliary, of which Mrs. C. P. Robbins is president, received recognition for their contribution to the fund for Control of Cancer at this meeting. This was the project of the Winona Auxiliary for their activity this year.

* * *

The seventeenth annual convention of the national Auxiliary will be held at the Hotel Chase, St. Louis, Missouri, May 15 to 19 inclusive. Registration will be held from 10 a. m. to 4 p. m. Sunday, May 14, with a tea in the afternoon for the national board in honor of Mrs. Charles C. Tomlinson, president. Monday, May 15, the national board meeting will be held in the Empire Room, Hotel Chase, at 9 a. m., and from 1:30 to 4:45 p. m. there will be a tea at the private gardens of St. Louis County. Tuesday, May 16, the formal opening of the convention and general session will be held in the Empire room of the Hotel Chase from 9 a. m. to 12 noon with luncheon at the St. Louis Woman's Club at 12:30, followed by tours with a tea

at the St. Louis University Woman's Club at 4 p. m. The opening meeting of the American Medical Association will be at 8 p. m. in the Municipal Auditorium. Wednesday, May 17, there will be a general session at 9 a. m. at the Chase Hotel with auxiliary luncheon at 1 p. m. at the Chase Club, followed by exhibits and music and conferences. A reception will be held that night for all visiting ladies with a motion picture revue of United States Seal fisheries and a fur fashion show. Thursday, May 18, the post-convention executive committee meeting will be held at 9 a. m. followed by the post-convention Board of Directors meeting. From 12:30 to 3:30 in the afternoon there will be a Mississippi steamboat trip for men and women and at 7 p. m. the annual "Bring Your Husband" dinner at the Chase Hotel, followed by a reception in honor of the president of the American Medical Association at the Hotel Jefferson. A Woman's Golf Round and Blind Bogey with trophies and prizes will be the feature for Friday, May 19, the closing day. It is hoped that Minnesota will be well represented at the annual national meeting.

* * *

Mrs. Leo Crafts of the Hennepin County Auxiliary passed away April 13, in Minneapolis. Her home was at 610 Fifth Street S. E. Mrs. Crafts was prominently identified with Auxiliary affairs, having served as president of the Hennepin County Auxiliary, and was a member of the Revision Committee of the State Auxiliary at the time of her death. She had spent the past fifty years as a resident of Minneapolis and was an instructor in Art at the State University from 1889 to 1901. She studied art in the East under a group of well known teachers including Edmund Tarbel, Joseph De Camp and Roda Holman Nichols, and she was a member of the Fine Arts Club of Boston, Fine Arts of Minneapolis, Women's Club and a member of the board of directors of the Y.W.C.A. and Travelers Aid. Many members of the auxiliary will remember the lovely poster she completed for the Hennepin County Auxiliary. She was an extensive traveler, having spent much time in Europe. Sincerest sympathy is extended to her family.

* * *

The Ramsey County Auxiliary recently voted to give \$100 to a fund to provide an Infantile Paralysis Center in Ramsey County. The annual reciprocity tea was given Monday, April 27, in the Ramsey County Library rooms. Dr. George Earl spoke on "Phases of Socialized Medicine." Mrs. Donald Bacon read the play "Kiss the Boys Good-bye." Invitations had been extended to various women's organizations to attend. Mrs. Wm. B. Roberts, State President, was a guest. Tea was served to seventy guests following the program.

BOOK REVIEWS

Books listed here become the property of the Ramsey, Hennepin and St. Louis County Medical libraries when reviewed. Members, however, are urged to write reviews of any or every recent book which may be of interest to physicians.

YOUR CHEST SHOULD BE FLAT. F. A. Weisman, M.D., F.A.C.P. Assistant Professor of Medicine, University of Minnesota; Member of Consulting Staff, Glen Lake Sanatorium, Oak Terrace, Minnesota; Member of Staff of St. Andrew's and St. Mary's Hospitals, Minneapolis. 145 pages. Illus. Price, cloth, \$2.00. Philadelphia: J. B. Lippincott & Co., 1939.

In a small volume Dr. Weisman has presented the results of his studies of thoracic indices of 20,000 school children as well as smaller groups of tuberculous individuals and preventorium children. From this material he has arrived at a normal thoracic index, that is, the ratio of the antero-posterior to the lateral dimensions of the chest through infancy, childhood and adult life. He has shown that the individual who on casual examination appears to be flat chested is very likely actually to be deep chested, that is, to have a high thoracic index, and that the

appearance is due to postural differences rather than to actual flattening of the chest. While Dr. Weisman has found that the thoracic indices of young adults having tuberculosis are higher than those of similar groups of healthy individuals, he also has very clearly shown that this index is an indication of malnutrition and under-development. His study of the school children in Minneapolis shows a higher thoracic index in the children coming from poorer districts than in those coming from the more well-to-do parts of the city.

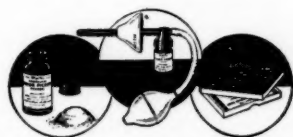
It is a recognized fact that prevalence of open tuberculosis is greater in neighborhoods of lower economic strata. It seems to me that Dr. Weisman's thesis, "that the deep chest makes better soil for tuberculosis," is based on the corollary that tuberculosis is more prevalent in the lower economic level, that malnutrition and under-development are more prevalent in the same strata and that the majority of individuals with deep chest, i.e., high thoracic indices, will come from such an environment. Therefore, the person with the deep chest is more apt to have tuberculosis. This book should be a valuable addition to the library of physicians, physical education directors, social service workers and teachers in emphasizing the problem of malnutrition and in presenting a simple method for indicating such condition.

G. A. HEDBERG, M.D.

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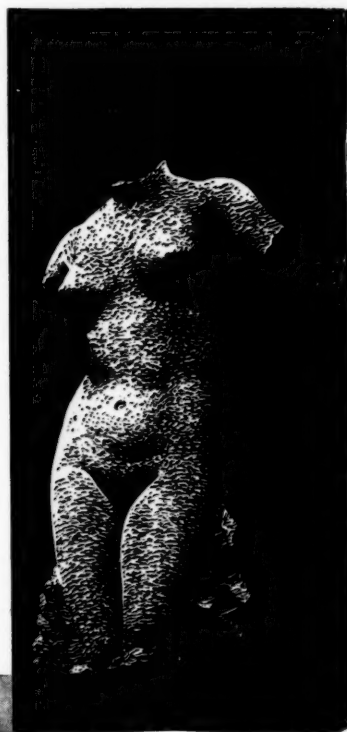
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C. F. BRIGHAM, M.D. St. Cloud
A. H. ZACHMAN, M.D. Melrose
WILLIAM FRIESLEBEN, M.D. Sauk Rapids

STEELE COUNTY
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C. E. CAINE, M.D. Morris
M. L. RANSOM, M. D. Hancock

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W. C. KAUFMAN, M.D. Appleton
C. L. SCOFIELD, M.D. Benson

TODD COUNTY
M. E. MOSBY, M.D. Browerville
J. M. COOK, M.D. Staples
W. W. WILL, M.D. Bertha

TRAVERSE COUNTY
C. F. EWING, M.D. Wheaton
N. F. DOLEMAN, M.D. Tintah
C. H. CLARK, M.D. Browns Valley

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C. G. OCHSNER, M.D. Wabasha
D. G. MAHLE, M.D. Plainview

WADENA COUNTY
C. H. PIERCE, M.D. Wadena
L. T. DAVIS, M.D. Wadena
A. H. BORGESON, M.D. Sebeka

WASECA COUNTY
B. J. GALLAGHER, M.D. Waseca
C. R. CHADBOURN, M.D. Janesville
W. C. BERNSTEIN, M.D. New Richland

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WATONWAN COUNTY
ALBERT THOMPSON, M.D. St. James
H. B. GRIMES, M.D. Madelia
O. E. HAGEN, M.D. Butterfield

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L. H. McMAHON, M.D. Breckenridge
W. E. WRAY, M.D. Campbell
E. W. RIMER, M.D. Breckenridge

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C. P. ROBBINS, M.D. Winona
E. E. CHRISTENSEN, M.D. Winona

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W. E. HART, M.D. Monticello
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T. J. CATLIN, M.D. Buffalo

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A. G. SANDERSON, M.D. Granite Falls
R. H. KATH, M.D. Wood Lake
M. I. HAUGE, M.D. Clarkfield

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Houston, Mower, Olmsted, Rice, Steele, Wabasha,
Winona.

DISTRICT NO. 2

L. L. Sogge, M.D.....Windom
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Murray, Nobles, Pipestone, Rock, Watonwan.

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Counties—Big Stone, Brown, Chippewa, Kandiyohi,
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wood, Stevens, Swift, Traverse, Yellow Medicine.

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Counties—Blue Earth, Carver, LeSueur, McLeod,
Nicollet, Renville, Scott, Sibley, Waseca.

DISTRICT NO. 5

E. M. Jones, M.D.....St. Paul
Counties—Anoka, Chisago, Dakota, Isanti, Kanabec,
Mille Lacs, Pine, Ramsey, Sherburne, Washington.

DISTRICT NO. 6

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Counties—Hennepin, Wright.

DISTRICT NO. 7

E. J. Simons, M.D.....Swanville
Counties—Aitkin, Beltrami, Benton, Cass, Clearwater,
Crow Wing, Hubbard, Koochiching, Morrison,
Stearns, Todd, Wadena.

DISTRICT NO. 8

W. L. Burnap, M.D.....Fergus Falls
Counties—Becker, Clay, Douglas, Grant, Kittson, Lake
of the Woods, Mahanomen, Marshall, Norman, Ot-
ter Tail, Pennington, Polk, Red Lake, Roseau, Wil-
kin.

DISTRICT NO. 9

B. S. Adams, M.D.....Hibbing
Counties—Carlton, Cook, Itasca, Lake, St. Louis.

MINNESOTA STATE MEDICAL ASSOCIATION

COUNTY SOCIETY ROSTER

BLUE EARTH COUNTY MEDICAL SOCIETY

Regular meetings, last Monday of each month
Annual meeting in December
Number of Members: 31

President
Liedloff, A. G. Mankato

Secretary
Koenigsberger, Charles Mankato

Andrews, R. N. Mankato
Benham, E. W. Mankato
Black, William Mankato
Butzer, J. A. Mankato
Dahl, G. A. Mankato
Edwards, R. T. Elysian
Feldman, F. M. Rochester

Franchere, F. W. Lake Crystal
Fugina, G. R. Mankato
Hankerson, R. G. Minnesota Lake
Hassett, R. G. Mankato
Holbrook, J. S. Mankato
Howard, M. I. Mankato
Juliar, R. O. St. Clair
Kemp, A. F. Mankato
Liedloff, A. G. Mankato
Lloyd, H. J. Mankato
Macbeth, J. L. St. Clair
Miller, V. L. Mankato

Morgan, H. O. Amboy
Osborn, Lida. Mankato
Penn, G. E. Mankato
Samuelson, L. G. Mankato
Schlesselman, J. T. Mankato
Schmidt, P. A. Good Thunder
Schmer, A. E. Mankato
Stillwell, W. C. Mankato
Troost, H. B. Mankato
Vezina, J. C. Mapleton
Wentworth, A. J. Mankato
Williams, H. O. Lake Crystal

BLUE EARTH VALLEY MEDICAL SOCIETY

Faribault and Martin Counties
Regular meetings, first Thursday of February, May, August and November
Annual meeting, first Thursday in November
Number of Members: 38

President
Russ, H. H. Blue Earth

Secretary
Chambers, W. C. Blue Earth

Bailey, H. B. Fairmont
Barr, W. H. Wells
Bergen, C. T. Blue Earth
Blanchard, H. G. Fairmont
Boysen, Herbert Welcome
Chambers, W. C. Blue Earth
Cooper, M. D. Winnebago
Demo, P. W. Wells
Farrish, R. C. Sherburn

Fisher, I. L. Ceylon
Gardner, V. H. Fairmont
Havel, T. E. Blue Earth
Heimark, J. J. Fairmont
Henderson, A. J. Kiester
Holm, P. F. Wells
Hunt, R. C. Fairmont
Hunte, A. F. Bylas, Ariz.
Jacobs, A. C. Elmore
Johnson, D. W. Fairmont
Johnson, H. P. Fairmont
Krause, C. W. Fairmont
Luedtke, G. H. Fairmont
Marken, M. H. Fairmont

McGroarty, J. J. Easton
McKean, F. F. Delavan
Miller, H. A. Fairmont
Mills, J. L. Winnebago
Raymond, J. H. Triumph
Rowe, W. H. Blue Earth
Russ, H. H. Blue Earth
Sommer, A. W. Elmore
Sybilrud, H. W. Briceyn
Thayer, E. A. Truman
Vaughan, V. M. Truman
Virnig, M. P. Wells
Wilson, C. E. Blue Earth
Youngman, R. A. Fairmont
Zemke, E. E. Fairmont

CAMP RELEASE DISTRICT MEDICAL SOCIETY

Chippewa, Lac Qui Parle and Yellow Medicine Counties
Annual meeting, March
Number of Members: 24

President
Roust, H. A. Montevideo

Secretary
Westby, Magnus Madison

Bacon, R. S. Montevideo
Bergh, L. N. Montevideo
Boody, G. J., Jr. Dawson
Burns, F. M. Milan
Burns, M. A. Milan

Cress, E. E. Boyd
Foshager, H. T. Clara City
Hauge, M. I. Clarkfield
Hauge, M. M. Clarkfield
Herbert, W. L. Granite Falls
Holmberg, L. J. Canby
Hudec, E. R. Echo
Johnson, C. M. Dawson
Jordan, L. S. Granite Falls

Kath, R. H. Wood Lake
Lee, W. N. Madison
Lima, Ludvig Montevideo
Nelson, M. S. Granite Falls
Perril, A. L. Canby
Roust, H. A. Montevideo
Smith, L. G. Montevideo
Tangen, G. M. Canby
Westby, Magnus Madison
Westby, Nels. Madison

CLAY-BECKER COUNTY MEDICAL SOCIETY

Annual meeting, December
Number of Members: 23

President
Moberg, C. W. Lake Park

Secretary
Flancher, L. H. Lake Park

Aborn, W. H. Hawley
Bottolfson, B. T. Moorhead
Carman, J. E. Detroit Lakes
Duncan, J. W. Moorhead
Ellingson, A. R. Detroit Lakes

Flancher, L. H. Lake Park
Gosslee, G. L. Moorhead
Gunderson, R. M. Lake Park
Hagen, O. J. Moorhead
Haight, G. G. Audubon
Humphrey, E. W. Moorhead
Ingebrigtsen, E. K. Moorhead
Larsen, O. O. Detroit Lakes
Larson, Arnold. Detroit Lakes

Moberg, C. W. Lake Park
Rice, H. G. Moorhead
Rutledge, L. H. Detroit Lakes
Seitz, S. B. Barnesville
Simson, Carl. Barnesville
Simson, C. W. Hawley
Staflne, W. A. Moorhead
Thysell, F. A. Moorhead
Thysell, V. D. Hawley

EAST CENTRAL MINNESOTA MEDICAL SOCIETY

Anoka, Chisago, Isanti, Kanabec, Mille Lacs, Pine and Sherburne Counties
Annual meeting, December
Number of Members: 34

President
Arends, A. L. Sandstone

Secretary
Ness, Claire M. Cambridge

Arends, A. L. Sandstone
Blomberg, W. R. Princeton

Blumenthal, J. S. Columbia Heights
Bossert, C. S. Mora
Brink, D. M. Isle
Brownstone, Manuel. Sandstone
Callahan, F. F. Pokegama
Clothier, E. F. Elk River

Cooney, H. C. Princeton
Dedolph, T. H. Braham
Dredge, H. P. Sandstone
Gardner, W. P. Anoka
Gully, R. J. Cambridge
Halpin, J. E. Rush City

Hedenstrom, L. H. Cambridge
Holmes, A. E. Rush City
Kaufman, E. J. Anoka
Kelsey, C. G. Hinckley
McBroom, D. E. Cambridge
Ness, Claire M. Cambridge
Neumaier, Arthur. Lindstrom

Nordman, W. F. Mora
Nygren, W. T. Braham
Petersen, P. C. Braham
Peterson, A. A. Mora
Roehlke, A. B. Elk River
Schlesselman, George. Anoka

Spurzem, R. J. Anoka
Stephan, E. L. Hinckley
Stratte, A. K. Pine City
Swensen, R. G. North Branch
Trommald, Gladys B. K. Anoka
Vik, Melvin. Onamia
Wasson, L. F. Chisago City

FREEBORN COUNTY MEDICAL SOCIETY

Regular meetings, Quarterly
Annual meeting, December
Number of Members: 23

President
Barr, L. C. Albert Lea
Secretary
Prins, L. R. Albert Lea
Barr, L. C. Albert Lea
Burns, H. D. Albert Lea
Butturf, C. R. Freeborn
Calhoun, F. W. Albert Lea
Donovan, D. L. Albert Lea

Folken, F. G. Albert Lea
Freeman, J. P. Albert Lea
Freligh, W. P. Albert Lea
Gamble, J. W. Albert Lea
Gamble, P. M. Albert Lea
Gullixson, A. Albert Lea
Jerome, Bourne. Newark, N. J.
Kaasa, L. J. Albert Lea
Kamp, B. A. Albert Lea

Leopard, B. A. Albert Lea
Manley, L. V. Northampton, Mass.
Palmer, C. F. Albert Lea
Palmer, W. L. Albert Lea
Prins, L. R. Albert Lea
Schuele, D. T. Albert Lea
Schultz, J. A. Albert Lea
Swanson, R. R. Albert Lea
Whitson, S. A. Alden

GOODHUE COUNTY MEDICAL SOCIETY

Regular meetings, none
Annual meeting, December
Number of Members: 22

President
Hartnagel, G. F. Red Wing
Secretary
Juers, E. H. Red Wing
Aanes, A. M. Red Wing
Aanes, A. R. Ellsworth
Anderson, S. H. Red Wing
Brusegard, J. F. Red Wing

Claydon, D. R. Red Wing
Claydon, H. F. Zumbrota
Claydon, L. E. Red Wing
Flom, M. G. Zumbrota
Graves, R. B. Red Wing
Hartnagel, G. F. Red Wing
Hedin, R. F. Chicago, Ill.
Johnson, A. E. Red Wing
Jones, A. W. Red Wing

Juers, E. H. Red Wing
Liffrig, W. W. Goodhue
Mack, J. J. Little Rock, Ark.
McGuigan, H. T. Red Wing
Nordholm, V. W. Red Wing
Smith, M. W. Red Wing
Steffens, L. A. Red Wing
Vaaler, T. Cannon Falls
Williams, M. R. Cannon Falls

HENNEPIN COUNTY MEDICAL SOCIETY

Regular meetings, first Monday each month excepting
June, July, August and September
Annual meeting, October
Number of Members: 622

President
Reynolds, J. S. Minneapolis
Secretary
Daniel, L. M. Minneapolis
Aagaard, G. N., Jr. Minneapolis
Abramson, Milton. Minneapolis
Adams, J. M. Minneapolis
Alexander, H. A. Minneapolis
Aling, C. A. Minneapolis
Allen, H. W. Minneapolis
Allison, R. G. Minneapolis
Altow, H. O. Minneapolis
Andersen, A. G. Minneapolis
Andersen, S. C. Minneapolis
Anderson, D. D. Minneapolis
Anderson, E. D. Minneapolis
Anderson, E. R. Minneapolis
Anderson, F. J. Minneapolis
Anderson, J. K. Minneapolis
Anderson, K. W. Minneapolis
Anderson, P. A. Minneapolis
Anderson, U. S. Minneapolis
Andreassen, E. C. Minneapolis
Andrews, R. S. Minneapolis
Annis, H. B. Minneapolis
Arey, S. L. Excelsior
Arlander, C. E. Minneapolis
Arling, L. S. Minneapolis
Arnold, Anna W. Minneapolis
Arnold, D. C. Minneapolis
Arvidson, C. G. Minneapolis
Aune, Martin. Minneapolis
Aurand, W. H. Minneapolis

Benesh, N. G. Minneapolis
Benjamin, A. E. Minneapolis
Benjamin, E. G. Minneapolis
Benjamin, H. G. Minneapolis
Benn, F. G. Minneapolis
Berger, A. G. Minneapolis
Bergh, G. S. Minneapolis
Berkwitz, N. J. Minneapolis
Berman, Reuben. Minneapolis
Bessesen, A. N., Jr. Minneapolis
Bessesen, W. A. Minneapolis
Blake, James. Hopkins
Blake, J. A. Hopkins
Blaustone, H. H. Minneapolis
Bockman, M. W. H. Minneapolis
Boehme, E. J. Minneapolis
Boies, L. R. Minneapolis
Booth, A. E. Minneapolis
Boreen, C. A. Minneapolis
Borgeson, E. J. Minneapolis
Borman, C. N. Minneapolis
Bouman, H. A. H. Minneapolis
Boynton, Ruth E. Minneapolis
Bratrud, A. F. Minneapolis
Brekke, H. J. Minneapolis
Brooks, C. N. Minneapolis
Brown, E. D. Paynesville
Brusch, G. C. Minneapolis
Bryant, F. L. Minneapolis
Bulkley, Kenneth. Minneapolis
Butler, John. Minneapolis
Buzzelle, L. K. Minneapolis

Clark, H. S. Minneapolis
Clay, L. B. Minneapolis
Cohen, B. A. Minneapolis
Cohen, S. S. Oak Terrace
Condit, W. H. Minneapolis
Cook, H. W. Minneapolis
Cooperman, H. O. Minneapolis
Corbett, J. F. Minneapolis
Cornia, A. D. Minneapolis
Cottam, Gilbert. Minneapolis
Cranmer, R. R. Minneapolis
Cranston, R. W. St. Louis Park
Creedy, C. D. Minneapolis
Creighton, R. H. Minneapolis
Curtin, J. F. Minneapolis
Cutts, George. Minneapolis
Cutts, R. E. Minneapolis

Dady, E. E. Minneapolis
Dahl, E. O. Minneapolis
Dahl, J. A. Minneapolis
Daniel, D. H. Minneapolis
Daniel, L. M. Minneapolis
Dart, L. O. Minneapolis
Davis, J. C. Minneapolis
del Plaine, C. W. Minneapolis
Devereaux, T. J. Wayzata
Diehl, H. S. Minneapolis
Diessner, H. D. Minneapolis
Doering, R. E. Minneapolis
Dorge, R. I. Minneapolis
Dornblaser, H. B. Minneapolis
Dorsey, G. C. Minneapolis
Droxey, G. L. Minneapolis
Doyle, L. O. Minneapolis
Drake, C. R. Minneapolis
Drill, H. E. Hopkins
Duff, E. R. Minneapolis
Dukelow, D. A. Minneapolis
Dumas, A. G. Minneapolis
Dunlap, E. H. Minneapolis
Dunn, G. R. Minneapolis
Duryea, W. M. Minneapolis
Dutton, C. E. Minneapolis
Dvorak, B. A. Minneapolis
Dwan, P. F. Minneapolis
Dworsky, S. D. Minneapolis
Eckhardt, C. L. Minneapolis
Ehrenberg, C. J. Minneapolis
Ehrlich, S. P. Minneapolis

Baken, M. P. Minneapolis
Baker, A. B. Minneapolis
Baker, A. T. Minneapolis
Baker, E. L. Minneapolis
Baker, Looe. Minneapolis
Balkin, S. G. Minneapolis
Barber, J. P. Minneapolis
Barron, Moses. Minneapolis
Bass, G. W. Minneapolis
Baxter, S. H. Minneapolis
Bayard, H. F. Minneapolis
Beard, A. H. Minneapolis
Beckman, W. G. Minneapolis
Bedford, E. W. Minneapolis
Bell, E. T. Minneapolis
Belzer, M. S. Minneapolis

Cable, M. L. Minneapolis
Cabot, V. S. Minneapolis
Cady, L. H. Minneapolis
Callstrom, G. W. Minneapolis
Cameron, Isabell L. Minneapolis
Camp, W. E. Minneapolis
Campbell, L. M. Minneapolis
Campbell, O. J. Minneapolis
Cardle, A. E. Minneapolis
Carey, J. B. Minneapolis
Carlson, Lawrence. Minneapolis
Carlson, L. T. Minneapolis
Caron, R. P. Minneapolis
Cavanor, F. T. Minneapolis
Chesley, A. J. Minneapolis
Christenson, G. R. Minneapolis
Christianson, H. W. Minneapolis

Eich, Matthew.....Minneapolis
Eisenstadt, D. H.....Minneapolis
Eitel, G. D.....Minneapolis
Ellison, D. E.....Minneapolis
Engelhart, P. C.....Minneapolis
Engstrand, O. J.....Minneapolis
Erdmann, C. A.....Minneapolis
Erickson, R. F.....Minneapolis
Ericson, R. M.....Minneapolis
Evans, E. T.....Minneapolis
Evans, R. D.....Minneapolis
Fahr, G. E.....Minneapolis
Fansler, W. A.....Minneapolis
Feeney, J. M.....Minneapolis
Fenger, E. P. K.....Oak Terrace
Fetterly, Warren.....Minneapolis
Fink, L. W.....Minneapolis
Fink, W. H.....Minneapolis
Fitzgerald, D. F.....Minneapolis
Fieldstad, C. A.....Minneapolis
Fleming, A. S.....Minneapolis
Ford, W. H.....Minneapolis
Foster, W. K.....Minneapolis
Fowler, L. H.....Minneapolis
Fredericks, G. M.....Minneapolis
Friedell, Aaron.....Minneapolis
Fritzell, K. E.....Minneapolis
Fuller, Alice H.....Minneapolis
Funk, V. K.....Oak Terrace
Gammell, J. H.....Minneapolis
Gardner, E. L.....Minneapolis
Giere, E. O.....Minneapolis
Giere, J. C.....Minneapolis
Giere, R. W.....Minneapolis
Giessler, P. W.....Minneapolis
Gilbert, M. G.....Minneapolis
Gilles, F. L.....Minneapolis
Girvin, R. B.....Minneapolis
Golberg, M. L.....Minneapolis
Goldberg, I. M.....Minneapolis
Goldman, T. L.....Minneapolis
Good, H. D.....Minneapolis
Gordon, P. E.....Minneapolis
Grave, Floyd.....Minneapolis
Grimes, Marian.....Minneapolis
Gronvall, P. R.....Minneapolis
Gunderson, N. A.....Minneapolis
Gunlaugson, F. G.....Mankato
Gushurst, E. G.....Minneapolis
Gustason, H. T.....Minneapolis
Hacking, F. H.....Minneapolis
Haggard, G. D.....Minneapolis
Hall, J. M.....Minneapolis
Hallberg, C. A.....Minneapolis
Hamel, A. L.....Minneapolis
Hamilton, A. S.....Minneapolis
Hamlin, G. B.....Minneapolis
Hammerstad, L. M.....Minneapolis
Hammond, A. J.....Minneapolis
Hannah, H. B.....Minneapolis
Hansen, C. O.....Minneapolis
Hansen, E. W.....Minneapolis
Hansen, Olga S.....Minneapolis
Hanson, H. V.....Minneapolis
Hanson, H. V.....Minneapolis
Hanson, M. B.....Minneapolis
Hanson, W. A.....Minneapolis
Happe, L. J.....Minneapolis
Harrington, C. D.....Minneapolis
Harrington, F. E.....Minneapolis
Hart, V. L.....Minneapolis
Hartzell, T. B.....Minneapolis
Hastings, D. R.....Minneapolis
Haven, W. K.....Minneapolis
Haverfield, Addie R.....Minneapolis
Hawkinson, R. P.....Minneapolis
Hayes, A. T.....Minneapolis
Hayes, J. M.....Minneapolis
Head, D. P.....Minneapolis
Head, G. D.....Minneapolis
Hedback, A. E.....Minneapolis
Heim, R. R.....Minneapolis
*Helk, H. H.....Minneapolis
Hendricks, E. J.....Minneapolis
Hendrickson, J. E.....Minneapolis
Henrickson, E. C.....Minneapolis
Henry, C. E.....Minneapolis
Henry, M. O.....Minneapolis
Herbolsheimer, A. J.....Minneapolis
Herbst, R. F.....Minneapolis
Herman, A. L.....Minneapolis
Hiebert, J. P.....Minneapolis
Higgins, J. H.....Minneapolis
Hill, Eleanor J.....Minneapolis
Hirschfelder, A. D.....Minneapolis
Hirshfield, F. R.....Minneapolis
Hoaglund, A. W.....Minneapolis
Hobbs, C. A.....Minneapolis
Hodge, S. V.....Minneapolis

*Deceased.

Hoffert, H. E.....Minneapolis
Hoffman, R. A.....Minneapolis
Holl, P. M.....Minneapolis
Holmberg, C. J.....Minneapolis
Holt, W. B.....Minneapolis
Holzapfel, F. C.....Minneapolis
Houkom, Bjarte.....Minneapolis
Hovland, M. L.....Minneapolis
Huenekens, E. J.....Minneapolis
Hultkrans, J. C.....Minneapolis
Hultkrans, R. E.....Minneapolis
Hurd, Annah.....Minneapolis
Hutchinson, C. J.....Minneapolis
Hymes, Charles.....Minneapolis
Hynes, J. E.....Minneapolis
Irvine, H. G.....Minneapolis
Jackson, C. M.....Minneapolis
Jennings, Mary H.....Minneapolis
Jensen, Harry.....Minneapolis
Jensen, M. J.....Minneapolis
Johnson, A. B.....Minneapolis
Johnson, A. E.....Minneapolis
Johnson, E. W.....Minneapolis
Johnson, H. A.....Minneapolis
Johnson, J. A.....Minneapolis
Johnson, Julius.....Minneapolis
Johnson, N. A.....Minneapolis
Johnson, Norman.....Minneapolis
Johnson, N. T.....Minneapolis
Johnson, R. A.....Minneapolis
Johnson, R. E.....Minneapolis
Johnson, S. M.....Minneapolis
Johnson, Y. T.....Minneapolis
Jones, G. M.....Minneapolis
Jones, H. W.....Minneapolis
Jones, W. R.....Minneapolis
Joswich, Alexander.....Minneapolis
Kalin, O. T.....Minneapolis
Karlstrom, A. E.....Minneapolis
Kelby, G. M.....Minneapolis
Kennedy, C. C.....Minneapolis
Kennedy, Jane F.....Minneapolis
Kerkhof, A. C.....Minneapolis
Kertesz, G.....Minneapolis
Kibbe, O. A.....Minneapolis
King, E. A.....Minneapolis
King, H. T.....Minneapolis
Kinsella, T. J.....Minneapolis
Kistler, A. J.....Minneapolis
Kistler, C. M.....Minneapolis
Knapp, M. E.....Minneapolis
Knight, R. R.....Minneapolis
Knight, R. T.....Minneapolis
Koepecke, G. M.....Minneapolis
Koller, H. M.....Minneapolis
Koller, L. R.....Minneapolis
Korchik, J. P.....Minneapolis
Kucera, M. J.....Hopkins
Kucera, W. J.....Minneapolis
Lajoie, J. M.....Minneapolis
Lang, L. A.....Minneapolis
Lapierre, A. F.....Minneapolis
Lapierre, J. T.....Minneapolis
Lapierre, J. T.....Minneapolis
Larsen, F. W.....Minneapolis
Larsen, C. M.....Minneapolis
Larsen, L. M.....Minneapolis
Larsen, L. M.....Oak Terrace
Larsen, P. N.....Minneapolis
La Vake, R. T.....Minneapolis
Laymon, C. W.....Minneapolis
Lazar, H. L.....Minneapolis
Leavitt, H. H.....Minneapolis
Lebowski, J. A.....Minneapolis
Leclercq, G. T. A.....Minneapolis
Lee, H. M.....Minneapolis
Leland, H. R.....Minneapolis
Lenz, O. A.....Minneapolis
Leonard, L. J.....Minneapolis
Leonard, Sam.....Minneapolis
Lillehei, E. J.....Robbinsdale
Lind, C. J.....Minneapolis
Lindgren, R. H.....Minneapolis
Lindquist, R. H.....Minneapolis
Linner, H. P.....Minneapolis
Linton, W. B.....Minneapolis
Lippman, E. S.....Minneapolis
Lipschultz, Oscar.....Minneapolis
Litchfield, J. T.....Minneapolis
Litman, A. B.....Minneapolis
Litzenberg, J. C.....Minneapolis
Logefell, R. C.....Minneapolis
Long, Jesse.....Minneapolis
Loomis, E. A.....Minneapolis
Lufkin, N. H.....Minneapolis
Lundblad, R. A.....Minneapolis
Lundblad, S. W.....Minneapolis
Lundgren, A. C.....Minneapolis
Lundquist, E. F.....Minneapolis
Lynch, M. J.....Minneapolis

Lysne, Henry.....Minneapolis
Lysne, Myron.....Minneapolis
MacDonald, A. E.....Minneapolis
MacDonald, D. A.....Minneapolis
*MacDonald, I. C.....Minneapolis
Mach, F. B.....Minneapolis
MacKinnon, D. C.....Minneapolis
Macnie, J. S.....Minneapolis
Maeder, E. C.....Minneapolis
Maland, C. O.....Minneapolis
Marette, E. S.....Oak Terrace
Mark, D. B.....Minneapolis
Marking, G. H.....Minneapolis
Martinson, C. J.....Wayzata
Matchan, G. R.....Minneapolis
Matthews, Justus.....Minneapolis
Mattill, P. M.....Oak Terrace
Mattson, Hamlin.....Minneapolis
Maxeiner, S. R.....Minneapolis
May, W. H.....Minneapolis
McCann, E. J.....Minneapolis
McCarthy, Donald.....Minneapolis
McCartney, J. S.....Minneapolis
McDaniel, Orianna.....Minneapolis
McFarland, A. H.....Minneapolis
McGandy, R. F.....Minneapolis
McGeary, G. E.....Minneapolis
McIntyre, George.....Minneapolis
McIntyre, George.....Minneapolis
McKenzie, C. H.....Minneapolis
McKinlay, C. A.....Minneapolis
McKinley, J. C.....Minneapolis
McKinney, F. S.....Minneapolis
McPheeters, H. O.....Minneapolis
McQuarrie, Irvine.....Minneapolis
Meland, E. L.....Minneapolis
Merkert, C. E.....Minneapolis
Merkert, G. L.....Minneapolis
Merrill, Elisabeth.....Minneapolis
Meyer, E. L.....Minneapolis
Michael, J. C.....Minneapolis
Michel, H. H.....Minneapolis
Michelson, H. E.....Minneapolis
Miller, H. E.....Minneapolis
Miller, J. C.....Minneapolis
Milton, J. S.....Minneapolis
Mitchell, E. C.....Mound
Moe, J. H.....Minneapolis
Moen, J. K.....Minneapolis
Moer, W. W.....Minneapolis
Monson, E. M.....Minneapolis
Moonhead, Martha B.....Minneapolis
Moren, Edward.....Minneapolis
Moriarty, Cecile R.....Minneapolis
Morrison, A. W.....Minneapolis
Morrison, Charlotte J.....Minneapolis
Morse, R. W.....Minneapolis
Morton, H. McI.....Vincetown, N. J.
Murphy, E. P.....Minneapolis
Murphy, J. J.....Minneapolis
Myers, J. A.....Minneapolis
Neal, J. M.....Minneapolis
Neary, R. P.....Minneapolis
Neilson, H. F.....Minneapolis
Neilson, H. S.....Minneapolis
Neilson, Harvey.....Minneapolis
Neilson, O. L. N.....Minneapolis
Nelson, W. L.....Minneapolis
Newhart, Horace.....Minneapolis
Nordin, G. T.....Minneapolis
Nordland, Martin.....Minneapolis
Norris, E. H.....Detroit, Michigan
North, H. W.....Minneapolis
Nydhall, M. J.....Minneapolis
Nylander, E. G.....Minneapolis
Nystrom, Ruth.....Minneapolis
Ober, C. M.....Minneapolis
O'Brien, W. A.....Minneapolis
O'Donnell, J. E.....Minneapolis
Olson, E. G.....Minneapolis
Olson, A. C.....Minneapolis
Olson, F. A.....Minneapolis
Olson, O. A.....Minneapolis
Olson, R. G.....Minneapolis
Oppen, E. G.....Minneapolis
Owre, Oscar.....Minneapolis
Patterson, W. E.....Minneapolis
Paulsen, E. L.....Minneapolis
Pederson, R. M.....Minneapolis
Pennington, Reuben.....Minneapolis
Peppard, T. A.....Minneapolis
Petersen, J. R.....Minneapolis
Petersen, Thorvald.....Minneapolis
Petersen, Henry.....Minneapolis
Petersen, H. O.....Minneapolis
Petersen, H. W.....Minneapolis
Petersen, N. P.....Minneapolis
Petersen, O. H.....Minneapolis
Petersen, P. E.....Minneapolis
Petersen, W. C.....Minneapolis
Petit, L. J.....Minneapolis

Pettit, C. W. Minneapolis
Peyton, W. T. Minneapolis
Piunder, M. C. Minneapolis
Phelps, K. A. Minneapolis
Platou, E. S. Minneapolis
Pohl, J. F. Minneapolis
Pollard, D. W. Minneapolis
Pollock, J. A. Minneapolis
Poppe, F. H. Minneapolis
Pratt, F. J. Minneapolis
Pratt, J. A. Minneapolis
Preine, I. A. Minneapolis
Prim, J. A. Minneapolis
Proshok, C. E. Minneapolis

Quello, R. O. B. Minneapolis
Quinby, T. F. Lake Wales, Florida
Quist, H. W. Minneapolis

Rasmussen, R. C. Minneapolis
Reed, C. A. Minneapolis
Regnier, E. A. Minneapolis
Rewbridge, A. G. Minneapolis
Reynolds, J. S. Minneapolis
Rice, C. O. Minneapolis
Richardson, F. S. Minneapolis
Richdorf, L. F. Minneapolis
Rieke, W. W. Wayzata
Rigler, L. G. Minneapolis
Risch, R. E. Minneapolis
Rishmiller, J. H. Minneapolis
Rizer, R. I. Minneapolis
Roan, C. M. Minneapolis
Robb, E. F. Minneapolis
Robbins, O. F. Minneapolis
Roberts, T. S. Minneapolis
Roberts, W. B. Minneapolis
Robitschek, E. C. Minneapolis
Rochford, W. E. Minneapolis
Kodda, F. C. Minneapolis
Rosen, Samuel Minneapolis
Rosenwald, R. M. Minneapolis
Rucker, W. H. Minneapolis
Rud, N. E. Minneapolis
Rudell, G. L. Minneapolis
Russett, A. N. Minneapolis
Rusten, E. M. Minneapolis

Sadler, W. P. Minneapolis
St. Cyr, K. J. Osseo
Salt, C. G. Minneapolis
Samuelson, Samuel Minneapolis
Sandt, K. E. Minneapolis
Sawatzky, W. A. Minneapolis
Schaefer, F. H. K. Minneapolis
Schaefer, W. G. Minneapolis
Scheldrup, N. H. Minneapolis
Scherer, L. R. Minneapolis
Schiele, B. C. Minneapolis
Schmidt, G. F. Minneapolis
Schmitt, A. F. Minneapolis
Schmitt, S. C. Los Angeles, Calif.

Schneider, J. P. Minneapolis
Schottler, M. E. Minneapolis
Schultz, P. J. Minneapolis
Schussler, O. F. Minneapolis
Schwartz, V. J. Minneapolis
Schwyzer, Gustav Minneapolis
Scott, F. H. Minneapolis
Scott, H. G. Minneapolis
Seashore, Gilbert Minneapolis
Seham, Max Minneapolis
Seifert, M. H. Excelsior
Seljeskog, S. R. Minneapolis
Selleseth, I. F. Minneapolis
Sessions, J. C. Minneapolis
Shaperman, Eva P. Minneapolis
Shapiro, M. J. Minneapolis
Sharp, D. V. Minneapolis
Siegmann, W. C. Minneapolis
Silver, J. D. Minneapolis
Simons, J. H. Minneapolis
Simpson, E. D. Minneapolis
Siperstein, D. M. Minneapolis
Sivertsen, Andrew Mound
Sivertsen, Ivar Minneapolis
Skjold, A. C. Minneapolis
Sloan, Julius Minneapolis
Smisek, F. M. Minneapolis
Smith, A. E. Minneapolis
Smith, A. M. Minneapolis
Smith, Archie M. Minneapolis
Smith, H. R. Minneapolis
Smith, N. M. Minneapolis
Soderlind, R. T. Minneapolis
Solhaug, S. B. Minneapolis
Spano, J. P. Minneapolis
Sperling, Louis Minneapolis
Spink, W. W. Minneapolis
Spratt, C. N. Minneapolis
Stanford, C. E. Minneapolis
Stebbins, T. L. Minneapolis
Stelter, L. A. Minneapolis
Stenstrom, Annette T. Minneapolis
Stewart, C. A. Minneapolis
Stewart, R. I. Minneapolis
Stomel, Joseph Minneapolis
Strachauer, A. C. Minneapolis
Stromgren, D. T. Minneapolis
Strout, E. S. Minneapolis
Strout, G. E. Minneapolis
Sturte, J. R. Minneapolis
Sullivan, R. M. Minneapolis
Sullivan, R. R. Minneapolis
Sundt, Mathias Minneapolis
Swanson, Cephas Minneapolis
Swanson, R. E. Minneapolis
Sweetser, H. B., Jr. Minneapolis
Sweetser, H. B., Sr. Minneapolis
Sweetser, T. H. Minneapolis
Sweitzer, S. E. Minneapolis
Swendseen, C. G. Minneapolis

Taylor, J. H. Minneapolis
Thomas, G. E. Minneapolis
Thomas, G. H. Minneapolis
Thomas, G. I. Minneapolis
Thysell, D. M. Minneapolis
Tingdale, A. C. Minneapolis
Trueman, A. S. Minneapolis
Tunstead, H. J. Minneapolis
Turncliff, D. D. Minneapolis
Tyrrrell, C. C. Minneapolis
Ude, W. H. Minneapolis
Ulrich, H. L. Minneapolis
Undine, C. A. Minneapolis
Vik, A. E. Minneapolis
Wahlquist, H. F. Minneapolis
Walch, A. E. Minneapolis
Waldron, C. W. Minneapolis
Wall, C. R. Minneapolis
Wangensteen, O. H. Minneapolis
Wanous, E. Z. Minneapolis
Ward, A. W. Minneapolis
Ward, P. A. Minneapolis
Warham, T. C. Minneapolis
Watson, C. J. Minneapolis
Watson, J. A. Minneapolis
Webb, R. C. Minneapolis
Weisman, S. A. Minneapolis
Wethall, A. G. Minneapolis
Wetherby, Macnider Minneapolis
Weum, T. W. Minneapolis
White, A. A. Minneapolis
White, S. M. Minneapolis
White, W. D. Minneapolis
Whitesell, L. A. Minneapolis
Widen, W. F. Minneapolis
Wilcox, A. E. Minneapolis
Wilder, K. W. Minneapolis
Wilder, R. L. Minneapolis
Wilken, P. A. Minneapolis
Willcutt, C. E. Minneapolis
Williams, Robert Minneapolis
Winer, L. H. Minneapolis
Winther, Nora M. C. Minneapolis
Witham, C. A. Minneapolis
Wittich, F. W. Minneapolis
Wohlrahe, A. A. Minneapolis
Wohlrahe, C. F. Minneapolis
Woodworth, Elizabeth Minneapolis
Wright, C. B. Minneapolis
Wright, C. D. Minneapolis
Wright, F. R. Minneapolis
Wright, S. G. Minneapolis
Wright, W. S. Minneapolis
Wyatt, O. S. Minneapolis
Wynne, H. M. N. Minneapolis
Ylvisaker, R. S. Minneapolis
Yoerg, O. W. Minneapolis
Zaworski, E. A. Minneapolis
Zierold, A. A. Minneapolis
Ziskin, Thomas Minneapolis

KANDIYOHI-SWIFT-MEEKER COUNTY MEDICAL SOCIETY

Regular meetings, second Wednesday of month

Annual meeting, December

Number of Members: 32

President
Danielson, Lennox Litchfield
Secretary
Scofield, C. L. Benson
Anderson, R. E. Willmar
Arnsen, J. M. Benson
Branton, A. F. Willmar
Branton, B. J. Willmar
Brigham, Frank Watkins
Daignault, Oscar Benson
Danielson, K. A. Litchfield
Danielson, Lennox Litchfield

Dowswell, W. J. Kerkhoven
Frederickson, Alice C. Willmar
Frederickson, G. U. Y. Willmar
Frisch, F. P. Willmar
Frost, E. H. Willmar
Giere, S. W. Benson
Hedlund, C. J. Atwater
Hodapp, R. J. Willmar
Jacobs, D. L. Willmar
Jacobs, J. C. Willmar
Jensen, H. H. Atwater
Johnson, Hans Kerkhoven

Kaufman, W. C. Appleton
Lipp, F. E. Appleton
Lutz, E. H. Willmar
Macklin, W. E. Litchfield
Nelson, K. L. St. Paul
Petersen, M. C. Willmar
Peterson, S. C. Grove City
Proeschel, R. K. Willmar
Scofield, C. L. Benson
Telford, V. J. Litchfield
Wilmot, C. A. Litchfield
Wilmot, H. E. Litchfield

LYON-LINCOLN COUNTY MEDICAL SOCIETY

Regular meetings, first Tuesday of month Spring and Fall

Annual meeting, first Tuesday in November

Number of Members: 25

President
Johnson, P. C. Tyler
Secretary
Workman, W. G. Tracy
Akester, Ward Marshall
Bosingham, C. N. Lake Benton
Erickson, A. O. Ivanhoe
Ford, B. C. Marshall
Frank, J. E. Marshall

Germo, Charles Balaton
Gray, F. D. Marshall
Hellerty, J. K. Tracy
Hermanson, P. E. Hendricks
Hoidale, A. D. Tracy
Jacquot, G. L. Marshall
Johnson, P. C. Tyler
Monson, L. J. Canby
Potter, R. B. Hendricks
Purves, G. H. Lake Benton

Robertson, I. B. Minneapolis
Sanderson, E. T. Minnesota
Schmidt, P. G. Granite Falls
Smith, L. A. Balaton
Thordarson, Theodore Minnesota
Vadheim, A. L. Tyler
Vadheim, J. L. Tyler
Valentine, W. H. Tracy
Workman, W. G. Tracy
Yaeger, W. W. Marshall

McLEOD COUNTY MEDICAL SOCIETY

Regular meetings, first Thursday of month
Annual meeting, January
Number of Members: 18

President
Jensen, A. M. Brownton
Secretary
Sheppard, C. G. Hutchinson
Clement, J. B. Lester Prairie
Fine, B. A. Winsted
Holm, H. H. Glencoe

Jensen, A. H. Hutchinson
Jensen, A. M. Brownton
Klima, W. W. Stewart
Langhoff, A. H. Glencoe
Lippmann, E. W. Hutchinson
McMahon, M. J. Green Isle
Ninneman, N. N. Silver Lake

Sahr, W. G. Hutchinson
Schmidt, W. R. Glencoe
Scholpp, O. W. Hutchinson
Sheppard, C. G. Hutchinson
Sheppard, Fred. Hutchinson
Sheppard, P. E. Hutchinson
Tinker, C. W. Stewart
Trutna, T. J. Silver Lake

MOWER COUNTY MEDICAL SOCIETY

Regular meetings, last Thursday of month excepting June, July and August
Annual meeting, Tuesday before last Thursday in November
Number of Members: 27

President
Hegge, R. S. Austin
Secretary
Robertson, P. A. Austin
Allen, A. W. Austin
Allen, C. C. Austin
Allen, H. B. Austin
Cronwell, B. J. Austin
Flanagan, L. G. Austin
Grise, W. B. Austin

Hanson, E. C. Austin
Havens, J. G. W. Austin
Hegge, O. H. Austin
Hegge, R. S. Austin
Henslin, A. E. Le Roy
Hertel, G. E. Austin
Johnson, O. J. Lyle
Kibler, F. E. Austin
Leck, P. C. Austin
Lommen, P. A. Austin
McKenna, J. K. Austin

Melzer, G. R. Lyle
Mitchell, R. S. Grand Meadow
Morrow, J. J. Austin
Morse, M. P. Le Roy
Robertson, P. A. Austin
Rosenthal, F. H. Grand Meadow
Schneider, P. J. Adams
Schottler, G. J. Dexter
Sheedy, C. L. Austin
Thomson, J. M. Brownsdale

NICOLLET-LE SUEUR COUNTY MEDICAL SOCIETY

Regular meetings, first Tuesday, April, September, and December
Annual meeting, first Tuesday in December
Number of Members: 22

President
Sonnesyn, N. N. Le Sueur
Secretary
Hiniker, P. J. Le Sueur
Aitkens, H. B. Le Center
Covell, W. W. St. Peter
Curtis, R. A. Le Center
Ericson, Swan. Le Sueur

Freeman, G. H. St. Peter
Grimes, B. P. St. Peter
Hiniker, P. J. Le Sueur
Holtan, Theodore. Waterville
Johnson, H. C. North Mankato
Kerschbaumer, Luisa. St. Peter
Kolars, J. J. Le Center
Lenander, M. E. St. Peter
Nilson, H. J. North Mankato

Nissen, A. S. St. Peter
Olmanson, E. G. St. Peter
Olson, D. C. Gaylord
Rossen, R. X. Hastings
Sonnesyn, N. N. Le Sueur
Strathern, C. S. St. Peter
Strathern, F. P. St. Peter
Traxler, F. J. Henderson
Wolner, O. H. St. Peter

OLMSTED-HOUSTON-FILLMORE-DODGE COUNTY MEDICAL SOCIETY

Regular meetings, first Wednesday every odd month
Annual meeting, November
Number of Members: 407

President
Haines, S. F. Rochester
Secretary
Adams, M. J. Rochester
Adams, R. C. Rochester
Addington, E. A. Rochester
Adson, A. W. Rochester
Affeldt, D. E. Kasson
Ahlf, Jacob. Caledonia
Allen, E. V. Rochester
Alvarez, W. C. Rochester
Amberg, Samuel. Rochester
Anderson, M. J. Rochester
Anderson, N. E. Harmony
Archer, G. F. Atlanta, Ga.
Autry, D. H. Rochester
Baggenstoss, A. H. Rochester
Bagwell, J. S., Jr. Rochester
Bailey, A. A. Rochester
Bair, H. L. Rochester
Baker, G. S. Rochester
Baker, H. R. Hayfield
Baker, R. L. Hayfield
Baker, Theodore, Jr. Rochester
Balfour, D. C. Rochester
Bargen, J. A. Rochester
Barker, N. W. Rochester
Barnes, A. R. Rochester
Basom, W. C. Rochester
Bedard, R. E. Kankakee, Ill.
Beiswanger, K. H. Wykoff
Beizer, L. H. Rochester
Belote, G. B. Caledonia
Benedict, W. L. Rochester
Bennett, R. L. Rochester
Benson, K. W. Rochester
Berkman, D. M. Rochester
Berkman, J. M. Rochester
Bethlach, C. J. Chicago, Ill.
Bigelow, C. E. Dodge Center
Binger, M. W. Rochester

Birge, R. F. Rochester
Black, B. M. Rochester
Black, J. R. Rochester
Boothby, W. M. Rochester
Bowling, H. H. Rochester
Braasch, W. F. Rochester
Broders, A. C. Rochester
Brown, A. E. Rochester
Brown, H. A. Rochester
Brown, H. O. Rochester
Brown, P. W. Rochester
Brown, R. W. Rochester
Browne, H. C., Jr. Rochester
Brumm, H. J. Rochester
Brunsting, L. A. Rochester
Buchstein, H. F. New Haven, Conn.
Buie, L. A. Rochester
Burchell, H. B. Rochester
Butt, H. R. Rochester
Cabell, C. L. Rochester
Cabot, Hugh. Rochester
Cady, J. B. Rochester
Cameron, D. M. Rochester
Camp, J. D. Rochester
Campbell, D. C. Rochester
Campbell, S. J. Rochester
Canfield, W. W. Houston
Carmichael, F. A., Jr. Rochester
Chauncey, L. R. Rochester
Cherry, J. H. Rochester
Chew, E. M. Seattle, Washington
Clagett, O. T. Rochester
Clark, L. W. Spring Valley
Clark, R. L., Jr. Rochester
Cleveland, W. H. Rochester
Clifton, T. A. Chatfield
Colyer, G. E. Rochester
Comfort, M. W. Rochester
Condon, W. B. Rochester
Conway, J. F. Rochester
Cook, E. N. Rochester

Counsellor, V. S. Rochester
Cragg, R. W. Rochester
Craig, W. McK. Rochester
Crenshaw, J. L. Rochester
Crew, J. E. Rochester
Cronin, T. D. Rochester
Crumppacker, L. K. Rochester
Cusick, P. L. Rochester
Cutler, H. H. Rochester
Darling, J. P. Rochester
Davis, A. C. Rochester
Davis, I. G. Rochester
Day, Lois. Rochester
Dearing, W. H. Rochester
Delmonico, E. J. Rochester
Derbyshire, R. C. Rochester
Desjardins, A. U. Rochester
Dickson, D. D. Rochester
Dix, C. R. Rochester
Dixon, C. F. Rochester
Dockerty, M. B. Rochester
Dochring, P. C. Rochester
Dolder, F. C. Eyota
Donath, Douglas. Rochester
Doss, A. K. Rochester
Drips, Della G. Rochester
Dry, T. J. Rochester
Dublin, William. Rochester
Eaton, L. McK. Rochester
Ecker, A. D. Rochester
Elkins, E. C. Rochester
Emmett, J. L. Rochester
Engle, D. E. Rochester
Erich, J. B. Rochester
Erickson, C. O. Rochester
Evarts, A. B. Rochester
Eusterman, G. B. Rochester
Faber, J. E. Rochester
Fairchild, R. D. Rochester
Fawcett, C. E. Stewartville
Ferris, D. O. Rochester

Figi, F. A. Rochester
 Fisher, H. C. Rochester
 Foley, M. P. Los Angeles
 Frick, R. E. Rochester
 Friedall, M. T. Rochester
 Gaarde, F. W. Rochester
 Gardner, J. W. Rochester
 Ghormley, R. K. Rochester
 Giffin, H. M. Rochester
 Giffin, H. Z. Rochester
 Giffin, L. A. Rochester
 Good, C. A., Jr. Rochester
 Goodson, W. H., Jr. Rochester
 Gore, H. R. Rochester
 Graham, R. W. Rochester
 Gray, H. K. Rochester
 Greene, L. F. Rochester
 Gregg, R. O. Rochester
 Grindlay, J. H. Rochester
 Groff, J. E. Rochester
 Guernsey, C. M. Rochester
 Haben, H. C. Rochester
 Haines, S. F. Rochester
 Hall, B. E. Rochester
 Hallenbeck, D. F. Rochester
 Hammer, H. J. Rochester
 Hargis, W. H., Jr. Rochester
 Hargraves, M. M. Rochester
 Harrington, S. W. Rochester
 Harrison, M. W. Rochester
 Hartman, H. R. Rochester
 Havens, F. Z. Rochester
 Hawn, H. W. Rochester
 Hayden, R. O. Rochester
 Heck, F. J. Rochester
 Heilman, Dorothy M. H. Rochester
 Heilman, F. R. Rochester
 Helland, G. M. Spring Grove
 Helland, J. W. Spring Grove
 Helm, Standiford. Rochester
 Helmholz, H. F. Rochester
 Hempstead, B. E. Rochester
 Hench, P. S. Rochester
 Henderson, J. W. Rochester
 Henderson, M. S. Rochester
 Herrell, W. E. Rochester
 Hertz, C. S. Rochester
 Hewitt, Edith S. Rochester
 Hewitt, R. M. Rochester
 Heyerdale, R. M. Rochester
 Heyerdale, W. W. Rochester
 Hildebrand, Alice G. Rochester
 Hines, E. A., Jr. Rochester
 Hinshaw, H. C. Rochester
 Hodgson, C. H. Rochester
 Hoffmann, H. O. E. Rochester
 Hollister, C. B. H. Rochester
 Holman, J. C., Jr. Rochester
 Horton, B. T. Rochester
 Howell, L. P. Rochester
 Hunt, A. B. Rochester
 Jackman, R. Rochester
 Janovese, J. F. Rochester
 Jensen, R. M. Rochester
 Johnson, H. P. Harmony
 Johnson, R. B. Lanesboro
 Joyce, G. L. Rochester
 Judd, E. S. Rochester
 Jump, W. C. Kasson
 Kearney, R. W. Rochester
 Keating, F. R., Jr. Rochester
 Keith, N. M. Rochester
 Kennedy, R. L. J. Rochester
 Kepler, E. J. Rochester
 Kermott, L. H. Rochester
 Kernohan, J. W. Rochester
 Kershner, C. M. Rochester
 Kierland, R. R. Rochester
 Killins, J. A. Rochester
 Kindisch, Leslie. Rochester
 King, W. L. M. Rochester
 Kirklin, B. R. Rochester
 Kirklin, O. L. Rochester
 Koch, Eleanor A. S. Rochester
 Koch, F. L. P. New York, N. Y.
 Koelsche, G. A. Rochester
 Kowallis, G. F. Rochester
 Krusen, Frank. Rochester
 Kvale, W. F. Rochester
 Lander, H. H. Rochester
 Lannin, J. C. Mabel
 Leddy, E. T. Rochester
 Lefel, J. M., Jr. Rochester
 Lemon, W. S. Rochester
 Lewis, E. B. Rochester
 Lillie, H. L. Rochester
 Limbert, E. M. Rochester
 Lloyd, S. J. Rochester
 Lochead, D. C. Rochester

Lockwood, W. W. Fort Peck, Mont.
 Logan, A. H. Rochester
 Logan, G. B. Rochester
 Love, J. G. Rochester
 Lovelace, W. R. Rochester
 Lovelady, S. B. Rochester
 Lundy, J. S. Rochester
 Luden, Georgine. Victoria, B. C., Can.
 MacCarty, W. C. Rochester
 Macey, H. B. Rochester
 MacKay, A. R. Rochester
 MacLean, A. R. Rochester
 Madding, G. F. Rochester
 Magath, T. B. Rochester
 Mann, A. S., Jr. Rochester
 Mann, F. C. Rochester
 Marclay, D. M. Amarillo, Texas
 Marshall, Mary E. Rochester
 Masson, D. M. Rochester
 Masson, J. C. Rochester
 Matthews, M. W. Rochester
 Mayo, C. H. Rochester
 Mayo, C. W. Rochester
 Mayo, W. J. Rochester
 Maytum, C. K. Rochester
 McCullough, J. A. L. Rochester
 McDonald, J. R. Rochester
 McDonough, F. E. Rochester
 McKaig, C. B. Pine Island
 McKean, R. S. Rochester
 McKinnon, D. A., Jr. Rochester
 McManamy, E. P. Rochester
 Mecray, P. M., Jr. Rochester
 Merritt, W. A. Rochester
 Meyerding, H. W. Rochester
 Miller, J. M. Rochester
 Moersch, F. P. Rochester
 Moersch, H. J. Rochester
 Montgomery, Hamilton. Rochester
 Morissette, Leopold. Rochester
 Morlock, C. G. Rochester
 Mountain, G. E. Rochester
 Mousel, L. H. Rochester
 Mulrooney, R. E. Rochester
 Mundell, B. J. Washington, D. C.
 Munn, Elizabeth L. Rochester
 Mussey, R. D. Rochester
 Nash, L. A. Rochester
 Nass, H. A. Mabel
 Neel, H. B. Rochester
 Nesbitt, Samuel. Rochester
 New, G. B. Rochester
 Norris, N. T. Caledonia
 O'Brien, J. P. Rochester
 Odel, H. M. Rochester
 Olds, J. W. Rochester
 O'Leary, P. A. Rochester
 Olsen, A. M. Rochester
 Olson, E. A. Pine Island
 Olson, G. E. West Concord
 Osgard, L. K. Houston
 Overpeck, D. O. Rochester
 Pansch, F. N. Rochester
 Parker, R. L. Rochester
 Parkhill, Edith M. Rochester
 Pastore, P. N. Rochester
 Patton, G. D. Rochester
 Paulson, D. L. Rochester
 Paulson, J. A. Rochester
 Pearman, R. O. D. Rochester
 Pemberton, J. deJ. Rochester
 Perozzi, Thelma. Rochester
 Piper, M. C. Rochester
 Plummer, W. A. Rochester
 Pollock, G. A. Rochester
 Pollock, L. W. Rochester
 Pool, T. L. Rochester
 Popp, W. C. Rochester
 Powers, F. H. Rochester
 Prangen, A. D. Rochester
 Prickman, L. E. Rochester
 Priestley, J. T. Rochester
 Rugh, D. G. Rochester
 Pumphrey, R. E. Rochester
 Quade, R. H. Rochester
 Quill, T. H. Rochester
 Ralph, R. D. Rochester
 Randall, K. C., II. Rochester
 Randall, L. M. Rochester
 Rasmussen, T. B. Rochester
 Redding, M. D. Rochester
 Regan, J. F. Rochester
 Rein, G. N. Rochester
 Richardson, W. E. Rushford
 Risser, A. F. Stewartville
 Rivers, A. B. Rochester
 Robertson, H. E. Rochester
 Rogne, W. G. Spring Grove
 Rosenberg, E. F. Rochester

Rosenow, E. C. Rochester
 Rosenow, E. C., Jr. Rochester
 Rosentheil, H. C. Rochester
 Rucker, C. W. Rochester
 Rushton, J. G. Rochester
 Rutledge, D. I. Rochester
 Rynearson, E. H. Rochester
 Sanford, A. H. Rochester
 Sawyer, Malcolm. Rochester
 Schlicke, C. P. Rochester
 Schmidt, H. W. Rochester
 Schmitt, G. F., Jr. Rochester
 Schneider, H. H. Rochester
 Schulte, T. L. Rochester
 Schunke, G. B. Rochester
 Schweiger, L. R. Rochester
 Searies, P. W. Buffalo, N. Y.
 Secord, E. N. Rochester
 Seedorf, E. E. Rochester
 Seldon, T. H. Rochester
 Sharpe, W. S. Rochester
 Sheedy, L. P. Rochester
 Sheldon, W. D. Rochester
 Shepard, V. D. Rochester
 Shoemaker, Rosemary Des Moines, Ia.
 Sickler, J. R. Rochester
 Simonton, K. M. Rochester
 Skinner, I. C., Jr. Rochester
 Slocumb, C. H. Rochester
 Smith, B. F. Rochester
 Smith, C. H. New Hampton, Iowa
 Smith, F. D. Rochester
 Smith, F. A. Rochester
 Smith, F. L. Rochester
 Smith, H. L. Rochester
 Smith, K. A. Rochester
 Smith, L. A. Rochester
 Smith, N. D. Rochester
 Smith, R. L., Jr. Rochester
 Snell, A. M. Rochester
 Snyder, J. M. Rochester
 Soniat, T. L. L. Rochester
 Sprague, E. W. Rochester
 Squire, E. W. Rochester
 Stafford, D. E. Rochester
 Stalker, L. K. Rochester
 Steffens, L. F. Rochester
 Stickney, J. M. Rochester
 Stuhler, L. G. Rochester
 Sutherland, C. G. Rochester
 Swartz, F. C. Rochester
 Swift, E. V. Rochester
 Swingle, H. F., Jr. Rochester
 Tenner, R. J. Rochester
 Tennison, William, III. Rochester
 Thigpen, F. M. Rochester
 Thompson, G. J. Rochester
 Tierney, C. M. Harmony
 Tillich, J. H. Rochester
 Tooke, T. B., Jr. Rochester
 Trandem, C. Elinor. Rochester
 Trueman, K. R. Rochester
 Tuohy, E. B. Rochester
 Uehlein, Alfred. Rochester
 Usher, F. C. Rochester
 Vaughn, L. D. Rochester
 Vickers, P. M. Rochester
 Wagener, H. P. Rochester
 Waggoner, R. P. Rochester
 Waisman, Morris. Rochester
 Wakefield, E. G. Rochester
 Walsh, J. J. Rochester
 Walsh, M. N. Rochester
 Walters, Waltman. Rochester
 Ward, C. E. Jackson, Miss.
 Watkins, C. H. Rochester
 Watterson, K. W. Meadville, Pa.
 Waugh, J. M. Rochester
 Weaver, D. F., Jr. Rochester
 Weber, H. M. Rochester
 Weir, J. F. Rochester
 Westra, J. J. Rochester
 Wilcox, L. E. Rochester
 Wilder, R. M. Rochester
 Williams, H. L. Rochester
 Williams, R. V. Rushford
 Willis, F. A. Rochester
 Willson, D. M. Rochester
 Wilson, L. B. Rochester
 Wilson, R. B. Rochester
 Wolman, W. D. Rochester
 Wood, H. G. Rochester
 Woodruff, C. W. Chatfield
 Woodruff, Robert. Rochester
 Wrork, D. H. Rochester
 Wulfi, R. F. Rochester
 Yeager, C. L. Rochester
 Young, H. H. Rochester

PARK REGION DISTRICT AND COUNTY MEDICAL SOCIETY

Douglas, Grant, Otter Tail and Wilkin Counties
Regular meetings, Second Wednesday every other month
Annual meeting, December
Number of Members: 56

President
Baker, N. H.Fergus Falls
Secretary
Boline, C. A.Battle Lake
Ahrens, R. S.Fergus Falls
Arndt, H. W.Detroit Lakes
Baker, A. C.Fergus Falls
Baker, N. H.Fergus Falls
Bergquist, K. E.Battle Lake
Blakey, A. R.Osakis
Boline, C. A.Battle Lake
Boyd, L. M.Alexandria
Boysen, J. E.Pelican Rapids
Boysen, Peter.Pelican Rapids
Broker, W. S.Wadena
Burnap, W. L.Fergus Falls
Clifford, G. W.Alexandria
Combacker, L. C.Fergus Falls
Drought, W. W.Fergus Falls
Esser, John.Perham

Estrem, C. O.Fergus Falls
Fisher, J. M.Fergus Falls
Griswold, F. E.Hoffman
Hand, W. R.Elbow Lake
Hanson, E. C.New York Mills
Haskell, A. D.Alexandria
Heiberg, E. A.Fergus Falls
Jacobs, G. C.Fergus Falls
Johnson, O. V.Fergus Falls
Katzberg, L. W.Fergus Falls
Kierland, P. E.Alexandria
Lee, W. A.Fergus Falls
Leibold, H. H.Parkers Prairie
Leland, J. T.Herman
Lewis, A. J.Henning
Love, F. A.Carlos
Lund, C. J. T.Underwood
McMahon, L. H.Breckenridge
Miller, W. A.New York Mills
Mouritsen, G. J.Fergus Falls

Naegeli, Frank.Fergus Falls
Neison, W. O. B.Fergus Falls
Otto, H. C.France
Parson, L. R.Elbow Lake
Patterson, W. L.Fergus Falls
Paulson, T. S.Fergus Falls
Powers, F. W.Barrett
Randall, A. M.Ashby
Reeve, E. T.Elbow Lake
Rimer, E. W.Breckenridge
Satersmoen, Theodore.Pelican Rapids
Sather, E. R.Alexandria
Serkland, J. C.Rothsay
Stemsrud, H. L.Parkers Prairie
Sutton, H. R.Hoffman
Tanquist, E. J.Alexandria
Vail, J. B.Henning
Webster, L. J.Battle Lake
Windsor, R. L.Fergus Falls
Wray, W. E.Campbell

RAMSEY COUNTY MEDICAL SOCIETY

Regular meetings, last Monday in every month excepting June, July, August
Annual meeting, last Monday in January
Number of Members: 346

President
Schoch, R. B. J.St. Paul
Secretary
Wilson, J. A.St. Paul
Abbott, J. S.St. Paul
Ahrens, A. E.St. Paul
Ahrens, A. H.St. Paul
Alberts, M. W.St. Paul
Alden, J. F.St. Paul
Alexander, F. H.St. Paul
Armstrong, J. M.St. Paul
Arnquist, A. S.St. Paul
Aurilius, J. R.St. Paul
Ausman, C. F.St. Paul
*Backus, A. S.St. Paul
Bacon, D. K.St. Paul
Bacon, L. C.St. Paul
Balcome, M. M.St. Paul
Barry, L. W.St. Paul
Barness, Nellie.St. Paul
Beadie, W. D.Cannon Falls
Beals, Hugh.St. Paul
Beck, R. H.St. Paul
Beck, H. O.St. Paul
Bell, C. C.St. Paul
Benepie, J. L.St. Paul
Bennion, P. H.St. Paul
Bentley, N. P.St. Paul
Berrisford, P. D.St. Paul
Bicek, J. F.St. Paul
Binger, H. E.St. Paul
Birnberg, T. L.St. Paul
Bock, R. A.St. Paul
Boeckmann, Egl.St. Paul
Bohland, E. H.St. Paul
Bolender, H. L.St. Paul
Borg, J. F.St. Paul
Bouma, L. R.St. Paul
Brand, G. D.St. Paul
Bray, E. R.St. Paul
Briggs, J. F.St. Paul
Broadie, T. E.St. Paul
Brodie, W. D.St. Paul
Brown, E. L.St. Paul
Brown, J. C.St. Paul
Bulinski, T. J.St. Paul
Burch, E. P.St. Paul
Burch, F. E.St. Paul
Burns, R. M.St. Paul
Burton, C. G.St. Paul
Busher, H. H.St. Paul
Cain, C. L.St. Paul
Caldwell, J. P.St. Paul
Carroll, W. C.St. Paul
Chatterton, W. C.St. Paul
Christiansen, A.St. Paul
Christison, J. T.St. Paul
Clark, H. B., Jr.St. Paul
Clark, T. C.Minneapolis
Colby, Woodard.St. Paul
Cole, W. H.St. Paul

Collie, H. G.St. Paul
Colvin, A. R.St. Paul
Connor, C. E.St. Paul
Cook, C. K.St. Paul
Cooper, C. C.St. Paul
Countryman, R. S.St. Paul
Cowern, E. W.North St. Paul
Critchfield, L. R.St. Paul
Culligan, J. M.St. Paul
Dack, L. G.St. Paul
Daugherty, E. B.Marine-on-St. Croix
Daugherty, L. E.St. Paul
Davis, Herbert.St. Paul
Davis, William.St. Paul
Dedolph, Karl.St. Paul
Delavan, P. A.St. Paul
Derauf, B. I.St. Paul
Dickson, T. H.St. Paul
Dittman, G. C.St. Paul
Donohue, P. F.St. Paul
Dovre, C. M.St. Paul
Drake, C. B.St. Paul
Dunn, J. N.St. Paul
Earl, G. A.St. Paul
Earl, John.St. Paul
Earl, Robert.St. Paul
Edlund, G.St. Paul
Edwards, J. W.St. Paul
Edwards, T. J.St. Paul
Ely, O. S.South St. Paul
Emerson, E. C.St. Paul
Endress, E. K.St. Paul
Ernest, G. C.South St. Paul
Ehelby, E. C.St. Paul
Fahey, E. W.St. Paul
Ferguson, J. C.St. Paul
Fesler, H. H.St. Paul
Flanagan, H. F.St. Paul
Fogarty, C. W.St. Paul
Fogelberg, E. J.St. Paul
Foley, F. E. B.St. Paul
Freeman, C. D.St. Paul
Freidman, L. L.St. Paul
Fritz, W. L.St. Paul
Frosts, C. W.St. Paul
Gager, E. C.St. Paul
Garbrecht, Arthur.St. Paul
Gardiner, D. G.St. Paul
Geer, E. K.St. Paul
Gehlen, J. N.St. Paul
Ghent, C. H.St. Paul
Gibbs, E. C.St. Paul
Gilfillan, J. S.St. Paul
Gilkey, S. E.St. Paul
Ginsberg, Wm.St. Paul
Golts, E. V.St. Paul
Grant, H. W.St. Paul
Gratzek, Thomas.St. Paul
Grau, R. K.St. Paul
Greenberg, H. A.St. Paul
Gruenhagen, A. P.St. Paul
Hagaman, G. K.St. Paul
Hall, A. R.St. Paul
Hall, H. H.St. Paul
Hammes, E. M.St. Paul

Hammond, J. F.St. Paul
Hanson, H. B.St. Paul
Harmon, G. E.St. Paul
Hartfiel, W. F.St. Paul
Hartley, E. C.St. Paul
Hassett, M. F.St. Paul
Hauser, V. P.St. Paul
Hawkins, V. J.St. Paul
Heath, A. C.Stillwater
Heck, W. W.St. Paul
Hedenstrom, F. G.St. Paul
Hengstler, W. H.St. Paul
Hensel, C. N.St. Paul
Herman, Samuel.St. Paul
Heron, R. C.St. Paul
Herrmann, E. T.St. Paul
Hilger, A. W.St. Paul
Hilger, D. D.St. Paul
Hilger, L. A.St. Paul
Hilleboe, H. E.St. Paul
Hiniker, L. P.St. Paul
Hochfizer, J. J.St. Paul
Hoff, Alfred.St. Paul
Hoffman, M. H.St. Paul
Holcomb, J. T.St. Paul
Holcomb, O. W.St. Paul
Holmen, R. W.St. Paul
Holt, J. E.St. Paul
Hopkins, G. W.St. Paul
Howard, M. A.St. Paul
Howard, W. S.St. Paul
Hullsieck, R. B.St. Paul
Ide, A. W.St. Paul
Ikeda, Kano.St. Paul
Ingerson, C. A.St. Paul
Jesion, J. W.St. Paul
Johanson, W. G.St. Paul
Johnson, A. M.St. Paul
Johnson, J. A.St. Paul
Johnson, T. H.San Francisco, Calif.
Jones, E. M.St. Paul
Kamman, G. R.St. Paul
Kannary, E. L.St. Paul
Kaplan, D. H.St. Paul
Kasper, E. M.St. Paul
Keefe, Roland.St. Paul
Kelly, J. V.St. Paul
Kelly, P. H.St. Paul
Kenefick, E. V.St. Paul
Kennedy, W. A.St. Paul
Kesting, Herman.St. Paul
King, G. L.St. Paul
Klein, H. N.St. Paul
Knauff, M. K.St. Paul
Koepsell, A. A. H.St. Paul
Kugler, A. A.St. Paul
Kvitrud, Gilbert.St. Paul
Langenderfer, F. V.St. Paul
Larsen, C. L.St. Paul
Lax, M. H.St. Paul
Leahy, Bartholomew.St. Paul
Leavenworth, R. O.St. Paul
Leick, R. M.St. Paul
Leitch, Archibald.St. Paul
Lepak, J. A.St. Paul

*Deceased.

Lerche, William.....Cable, Wis.
 Leven, N. L.....St. Paul
 Levin, Bert.....St. Paul
 Levitt, G. X.....St. Paul
 Lick, C. L.....St. Paul
 Lippman, H. S.....St. Paul
 Little, W. J.....St. Paul
 Livingstone, J. W.....Hudson, Wis.
 Lowe, E. R.....South St. Paul
 Lowe, T. A.....South St. Paul
 Lundholm, A. M.....St. Paul
 Lynch, F. W.....St. Paul
 Madden, J. F.....St. Paul
 Markoe, J. C.....St. Paul
 Marks, R. W.....St. Paul
 Martineau, J. L.....St. Paul
 Mattson, C. H.....St. Paul
 McCarthy, J. J.....St. Paul
 McCarthy, W. R.....St. Paul
 McClanahan, J. H.....White Bear
 McClanahan, T. S.....White Bear
 McLaren, Jennette M.....Minneapolis
 McNevin, C. F.....St. Paul
 Meade, J. R.....St. Paul
 Mears, B. J.....St. Paul
 Medelman, J. P.....St. Paul
 Meyerding, E. A.....St. Paul
 Moga, J. A.....St. Paul
 Mogilner, J. N.....Los Angeles, Calif.
 Molander, H. A.....St. Paul
 Moquin, Harry A.....St. Paul
 Moran, T. R.....Phoenix, Ariz.
 Moriarty, Berenice.....St. Paul
 Morrissey, F. B.....St. Paul
 Moss, M. N.....St. Paul
 Moynihan, T. J.....St. Paul
 Muller, R. T.....St. Paul
 Myers, Thomas.....St. Paul
 Naegeli, A. E.....St. Paul
 Naslund, A. W.....St. Paul
 Neher, F. H.....St. Paul
 Nelson, L. A.....St. Paul
 Nichols, A. E.....St. Paul
 Noble, J. F.....St. Paul
 Noble, J. L.....St. Paul
 Nuebel, C. J.....St. Paul
 Nye, Katherine A.....St. Paul
 Nye, Lillian L.....St. Paul
 O'Brien, W. M.....St. Paul
 O'Connor, L. J.....St. Paul
 Oerting, Harry.....St. Paul
 Ogden, Warner.....St. Paul
 Ohage, Justus, Jr.....St. Paul

Olson, C. A.....St. Paul
 O'Reilly, B. E.....St. Paul
 Ostergren, E. W.....St. Paul
 Ouelette, A. J.....St. Paul
 Page, C. V.....St. Paul
 Pearson, F. R.....St. Paul
 Pedersen, A. H.....St. Paul
 Perry, C. G.....St. Paul
 Peterson, D. B.....St. Paul
 Peterson, J. L. E.....St. Paul
 Peterson, V. N.....St. Paul
 Plondke, F. J.....St. Paul
 Prendergast, H. J.....St. Paul
 Prendergast, J. J.....St. Paul
 Radabaugh, R. C.....Hastings
 Ramsey, W. R.....St. Paul
 Richards, E. T. F.....St. Paul
 Richardson, H. E.....St. Paul
 Ritchie, H. P.....St. Paul
 Ritt, A. E.....St. Paul
 Rogers, S. F.....St. Paul
 Rosenblatt, Louis.....St. Paul
 Rosenholtz, Burton.....St. Paul
 Rosenthal, Robert.....St. Paul
 Rothrock, J. L.....St. Paul
 Rothschild, H. J.....St. Paul
 Roy, P. C.....St. Paul
 Ruhberg, G. N.....St. Paul
 Rutherford, W. C.....St. Paul
 Ryan, J. J.....St. Paul
 Ryan, J. M.....St. Paul
 Ryan, M. E.....St. Paul
 Sarnecki, M. M.....St. Paul
 Satterlund, V. L.....St. Paul
 Savage, F. J.....St. Paul
 Schoch, R. B. J.....St. Paul
 Schons, Edward.....St. Paul
 Schult, F. C.....St. Paul
 Schulze, A. G.....St. Paul
 Schwyzer, Arnold.....St. Paul
 Scott, E. E.....St. Paul
 Senkler, G. E.....St. Paul
 Setzer, H. J.....St. Paul
 Shannon, W. R.....St. Paul
 Shellman, J. L.....St. Paul
 Shillington, M. A.....Glendive, Mont.
 Shimonck, S. W.....St. Paul
 Short, Jacob.....St. Paul
 Simons, L. T.....St. Paul
 Singer, B. J.....St. Paul
 Skinner, H. O.....St. Paul
 Smisek, E. A.....St. Paul

Smith, V. D. E.....St. Paul
 Snyder, G. W.....St. Paul
 Solberg, O. L.....St. Paul
 Souster, B. B.....St. Paul
 Sprafka, J. M.....St. Paul
 Steinberg, C. L.....St. Paul
 Sterner, E. G.....St. Paul
 Sterner, E. R.....St. Paul
 Stewart, Alexander.....St. Paul
 Stinnette, S. E.....St. Paul
 Stockmann, A. E.....St. Paul
 Stolpestad, A. H.....St. Paul
 Stolpestad, H. L.....St. Paul
 Strate, G. E.....St. Paul
 Strauss, M. L.....St. Paul
 Swanson, J. A.....St. Paul
 Swendsen, J. J.....St. Paul
 Teisberg, C. B.....St. Paul
 Thompson, F. A.....St. Paul
 Thoreson, M. O.....St. Paul
 Tift, C. R.....St. Paul
 Tregilas, H. R.....South St. Paul
 Van Slyke, C. A.....St. Paul
 Veirs, Dean.....St. Paul
 Veirs, Ruby S.....St. Paul
 Venables, A. E.....St. Paul
 Von der Weyer, William.....St. Paul
 Waas, C. W.....St. Paul
 Walker, A. E.....St. Paul
 Walter, C. W.....St. Paul
 Warnock, R. W.....St. Paul
 Warren, C. A.....St. Paul
 Warren, E. L.....St. Paul
 Watz, C. E.....St. Paul
 Welch, M. C.....St. Paul
 Wenzel, G. P.....St. Paul
 Werner, O. S.....Cambridge
 Wheeler, M. W.....St. Paul
 Whitacre, J. C.....St. Paul
 Whitmore, F. W.....St. Paul
 Williams, A. B.....St. Paul
 Williams, C. K.....St. Paul
 Williamson, G. A.....St. Paul
 Wilson, J. A.....St. Paul
 Wilson, J. V.....St. Paul
 Winnick, J. B.....St. Paul
 Wold, K. C.....St. Paul
 Wolfe, H. H.....St. Paul
 Wolff, H. J.....St. Paul
 Wolkoff, H. J.....St. Paul
 Youngren, E. R.....St. Paul
 Zachman, L. L.....St. Paul
 Zander, C. H.....St. Paul
 Zimmermann, H. B.....St. Paul

RED RIVER VALLEY MEDICAL SOCIETY

Kittson, Mahanomen, Marshall, Norman, Pennington, Polk, Red Lake and Roseau Counties

Regular meetings, second Tuesday every quarter

Annual meeting, second Tuesday, December

Number of Members: 62

President
 Erickson, Eskil.....Halstad
 Secretary
 Oppegaard, C. L.....Crookston
 Adkins, C. M.....Thief River Falls
 Anderson, W. E.....Thief River Falls
 Anderson, W. S.....Minneapolis
 Behr, O. K.....Crookston
 Berge, D. O.....Roseau
 Berlin, A. S.....Hallock
 Bertelson, O. L.....Crookston
 Biedermann, Jacob.....Thief River Falls
 Blegen, H. M.....Warren
 Bloedel, T. J.....Thief River Falls
 Boardman, D. V.....Twin Valley
 Bohl, G. W.....Ada
 Borreson, Baldwin.....Thief River Falls
 Bratrud, Edward.....Thief River Falls
 Brink, A. A.....Baudette
 Brown, L. L.....Crookston
 Delmore, J. L., Jr.....Roseau

Delmore, J. L., Sr.....Roseau
 Ederer, J. J.....Mahanomen
 Erickson, Eskil.....Halstad
 Griffin, P. J.....Fertile
 Haugseth, Enoch.....Twin Valley
 Hedemark, H. H.....Thief River Falls
 Helseth, H. K.....Thief River Falls
 Henney, W. H.....McIntosh
 Hodgson, H. H.....Crookston
 Hollands, W. H.....Fisher
 Holmstrom, C. H.....Warren
 Johnson, H. C.....Thief River Falls
 Kahala, Arthur.....Crookston
 Kirk, G. P.....East Grand Forks
 Knutson, G. A.....Greenbush
 Kostick, W. R.....Fertile
 Leitch, N. M.....Warroad
 Loken, Theodore.....Ada
 Lynde, O. G.....Thief River Falls
 Malloy, J. F.....Thief River Falls
 Melby, O. F.....Thief River Falls
 Mercil, W. F.....Crookston
 Morley, G. A.....Crookston

Nelson, H. E.....Crookston
 Norman, J. F.....Crookston
 Ohnstad, J. L.....McIntosh
 Oppegaard, C. L.....Crookston
 Oppegaard, M. O.....Crookston
 Paradis, W. G.....Crookston
 Parsons, J. G.....Crookston
 Pelletiere, E. V.....Thief River Falls
 Reff, A. R.....Crookston
 Rice, H. R.....Roseau
 Robertson, F. O.....East Grand Forks
 Roy, J. A.....Red Lake Falls
 Sather, G. O.....Fosston
 Sather, R. O.....Crookston
 Shaleen, A. W.....Hallock
 Shedlov, Abraham.....Fosston
 Stevens, John.....Gorick
 Sturmanns, S. H.....Erskine
 Tanglin, W. G. I.....Mahanomen
 Torgerson, W. B.....Oklee
 Uhley, C. G.....Crookston
 Wiltrout, I. G.....Oslo

REDWOOD-BROWN COUNTY MEDICAL SOCIETY

Regular meetings, February, May, August, and November

Annual meeting, May

Number of Members: 31

President
 Nuessle, W. G.....Springfield
 Secretary
 Fritsche, C. J.....New Ulm

*Deceased.

Abbott, C. B.....Springfield
 Anderson, E. M.....Lamberton
 Brey, F. W.....Wabasso
 Cairns, R. J.....Sanborn
 Dubbe, F. H.....New Ulm
 Dysterheft, A. F.....Gaylord
 Esser, O. J.....Gibbon

Fesenmaier, O. B.....New Ulm
 Fritsche, Albert.....New Ulm
 Fritsche, C. J.....New Ulm
 Fritsche, T. R.....New Ulm
 Gibbons, F. C.....Comfrey
 Goblirsch, A. P.....Sleepy Eye

MAY, 1939

Hammermeister, T. F.....New Ulm
Hovde, Rolf.....Winthrop
Kusske, A. L.....New Ulm
Mortensbak, H. E.....Hanska
Nuessle, W. G.....Springfield
Olson, K. L.....Gibson

Pelant, F. J.....New Ulm
Peterson, R. A.....Vesta
Reineke, G. F.....New Ulm
Rothenburg, J. C.....Springfield
Saffert, C. A.....New Ulm
Schroepel, J. E.....Winthrop

Seifert, O. J.....New Ulm
Vogel, H. A. L.....New Ulm
Vogel, J. H.....New Ulm
Wahlberg, E. W.....Morgan
Weiser, G. B.....New Ulm
Wohlrahe, E. J.....Springfield

RENNVILLE COUNTY MEDICAL SOCIETY

Regular meetings, second Tuesday of each month

Annual meeting, November

Number of Members: 24

President
Gaines, E. C.....Buffalo Lake
Secretary
Billings, R. E.....Franklin
Adams, R. C.....Bird Island
Billings, R. E.....Franklin
Brand, W. A.....Redwood Falls
Bushard, W. J.....Bird Island
Ceplecha, S. F.....Redwood Falls

Cole, H. B.....Redwood Falls
Cole, J. G.....Redwood Falls
Cosgriff, J. A.....Olivia
Dordal, J. E.....Sacred Heart
Erickson, R. E.....Hector
Fawcett, A. M.....Renville
Flinn, T. E.....Redwood Falls
Gaines, E. C.....Buffalo Lake
Hartmann, C. M.....Fairfax

Johnson, O. H.....Redwood Falls
Johnson, W. E.....Morgan
Lenz, J. R.....Morton
Madland, R. S.....Fairfax
Mesker, G. H.....Olivia
Passer, A. A.....Olivia
Penhall, F. W.....Morton
Potthoff, C. J.....Minneapolis
Preisinger, J. W.....Renville
Solsem, F. N.....Sacred Heart

RICE COUNTY MEDICAL SOCIETY

Regular meetings, at call

Annual meeting, December

Number of Members: 37

President
Robilliard, C. M.....Faribault
Secretary
Plonske, C. J.....Faribault
Babcock, F. M.....Northfield
Beede, Ethel R.....Faribault
Dugan, L. F.....Faribault
Dungay, N. S.....Northfield
Engberg, E. J.....Faribault
Francis, D. W.....Morristown
Haessly, S. B.....Faribault
Hanson, A. M.....Faribault
Haynes, A. L.....Faribault

Huxley, F. R.....Faribault
Kanne, C. W.....Faribault
Lende, Norman.....Faribault
Lexa, F. J.....Lonsdale
Lufkin, C. D.....Northfield
Lyght, C. F.....Northfield
McKeon, J. O.....Montgomery
Meyer, F. C.....Kenyon
Meyer, P. F.....Faribault
Moses, Joseph, Jr.....Northfield
Moyer, R. E.....Faribault
Nuetzman, A. W.....Faribault
Plonske, C. J.....Faribault
Robilliard, C. M.....Faribault

Rohrer, C. A.....Waterville
Rudie, C. N.....Kenyon
Rumpf, C. W.....Faribault
Rumpf, W. H.....Faribault
Seeley, I. F.....Northfield
Stewart, Gwendolyn.....Faribault
Stroebel, C. F.....Northfield
Thorsen, O. P.....Faribault
Traeger, C. A.....Faribault
Warren, F. S.....Washington, D. C.
West, E. J.....Faribault
Wilkowski, R. J.....Nerstrand
Wilson, Warren.....Northfield
Wylie, A. R. T.....Faribault

ST. LOUIS COUNTY MEDICAL SOCIETY

Carlton, Cook, Itasca, Lake and St. Louis Counties

Regular meetings, second Thursday every month except July and August

Annual meeting, December

Number of Members: 223

President
Clement, T. G.....Duluth
Secretary
MacRae, G. C.....Duluth
Abraham, A. L.....Duluth
Adams, B. S.....Hibbing
Addy, E. R.....Gilbert
Ahl, C. W.....Hibbing
Akins, W. M.....Eveleth
Anderson, H. R.....Deer River
Armstrong, E. L.....Duluth
Arnold, J. E.....Mountain Iron
Athens, A. G.....Duluth
Ayres, G. T.....Ely
Bachnik, F. W.....Hibbing
Bagley, C. M.....Duluth
Bagley, Elizabeth C.....Duluth
Bagley, W. R.....Duluth
Bakkila, Henry.....Duluth
Bardon, Richard.....Duluth
Barney, L. A.....Duluth
Barrett, E. E.....Duluth
Becker, F. T.....Duluth
Bender, J. H.....Big Fork
Berdez, G. L.....Duluth
Bianco, A. J.....Duluth
Binet, H. E.....Grand Rapids
Birkland, O. N.....Hibbing
Blacklock, S. S.....Hibbing
Blakely, C. C.....Barnum
Boman, P. G.....Duluth
Bowen, R. L.....Hibbing
Boyer, S. H., Jr.....Duluth
Boyer, S. H., Sr.....Duluth
Braverman, N. J.....Duluth
Bray, P. N.....Duluth
Bray, R. B.....Biwabik
Buckley, R. P.....Duluth
Burton, J. L.....Buhl
Butler, J. K.....Carlton
Cantwell, W. F.....International Falls
Carstens, C. F.....Hibbing

Chapman, T. L.....Duluth
Cheney, E. L.....Duluth
Chermak, F. G.....Hibbing
Christensen, E. P.....Two Harbors
Clark, F. F.....Duluth
Clement, T. G.....Duluth
Cochrane, B. B.....Coleraine
Collins, A. N.....Duluth
Collins, H. C.....Duluth
Coventry, W. D.....Duluth
Coventry, W. D.....Duluth
Cowan, G. M.....Brimson
Dahlin, I. T.....Aurora
Davies, R. J.....Nopeming
Davis, B. F.....Duluth
Doolittle, L. E.....Duluth
Doyle, G. C.....Duluth
Eckman, P. F.....Duluth
Eckman, R. J.....Duluth
Ekblad, J. W.....Duluth
Elias, F. J.....Duluth
Elliott, W. S.....Virginia
Emanuel, K. W.....Duluth
Eppard, R. M.....Cloquet
Estrem, T. A.....Hibbing
Ewens, H. B.....Virginia
Fankboner, A. V.....Buhl
Fawcett, K. R.....Duluth
Fellows, M. F.....Duluth
Feuling, J. C.....Bovey
Fischer, M. McC.....Duluth
Fisketti, Henry.....Duluth
Forbes, R. S.....Duluth
Gendron, J. F.....Grand Rapids
Gillespie, M. G.....Duluth
Gillespie, N. H.....Duluth
Giroux, A. A.....Moose Lake
Goldish, D. R.....Duluth
Goodman, C. E.....Virginia
Gowan, L. R.....Duluth
Graham, Robert.....Duluth
Graves, W. N.....Duluth
Haney, C. I.....Duluth
Hanson, E. O.....Cloquet
Harlowe, H. D.....Virginia

Harris, C. N.....Hibbing
Hatch, W. E.....Duluth
Hathaway, S. J.....Proctor
Hayes, M. F.....Nashwauk
Hedberg, G. A.....Nopeming
Heiam, W. C.....Cook
Heimark, O. E.....Duluth
Hilding, A. C.....Duluth
Hill, F. E.....Duluth
Hirschboeck, F. J.....Duluth
Hirschfield, M. S.....Duluth
Hoff, H. O.....Duluth
Hurst, M. M.....Hibbing
Hutchinson, Henry.....Moose Lake
Jacobson, Clarence.....Chisholm
Jensen, T. J.....Duluth
Jolin, F. M.....Coleraine
Jolin, R. V.....Grand Rapids
Kemp, M. W.....Moose Lake
Keyes, C. R.....Duluth
Kiesling, I. H.....Nashwauk
Klein, Harry.....Duluth
Knapp, F. N.....Duluth
Kohlbr, C. O.....Duluth
Kotchevar, F. R.....Eveleth
Kotzeberg, Oscar.....Moose Lake
Kraft, Peter.....Duluth
Kranz, C. I.....Duluth
Kuth, J. R.....Duluth
La Bree, R. H.....Chisholm
Laird, A. T.....Nopeming
Langmack, William.....Cloquet
Lenont, C. B.....Virginia
Lepak, F. J.....Duluth
Litman, S. N.....Duluth
Loofbourrow, E. H.....Keewatin
Macfarlane, P. H.....Chisholm
MacRae, G. C.....Duluth
Magney, F. H.....Duluth
Malmstrom, J. A.....Virginia
Manley, J. R.....Duluth
Martin, E. T.....Nopeming
Martin, E. T.....Duluth
Martin, W. C.....Duluth

*Deceased.

Mayne, R. M. Duluth
 McCarty, P. D. Ely
 McComb, C. F. Duluth
 McCoy, Mary K. Duluth
 McDaniel, S. P. Virginia
 McDonald, A. L. Duluth
 McHaffie, O. L. Duluth
 McKenna, M. J. Grand Rapids
 McLeod, J. L. Grand Rapids
 McNutt, J. R. Duluth
 Mead, C. H. Duluth
 Merriman, L. L. Duluth
 Meyer, J. O. Grand Rapids
 Miners, G. A. Deer River
 Moe, R. J. Duluth
 Moe, Thomas Moose Lake
 Monroe, P. B. Two Harbors
 More, C. W. Eveleth
 Morsman, L. W. Hibbing
 Mueller, R. F. Two Harbors
 Mueller, Selma C. Duluth
 Neff, W. S. Virginia
 Nelson, E. H. Chisholm
 Nelson, R. L. Duluth
 Nicholson, M. A. Duluth
 Nutting, R. E. Duluth
 O'Hanlon, J. A. Proctor
 Olson, A. E. Duluth
 Olson, A. O. Duluth
 Parker, O. W. Ely
 Parker, W. H. Chisholm
 Pasek, A. W. Cloquet

Pearsall, R. P. Virginia
 Pennie, D. F. Duluth
 Peterson, E. N. Virginia
 Peterson, J. H. Duluth
 Plowman, E. T. Marble
 Power, J. E. Duluth
 Puumala, R. H. Cloquet
 Raadquist, C. S. Hibbing
 Raihala, John Virginia
 Raiter, F. W. S. Cloquet
 Raiter, R. E. Cloquet
 Robinson, J. M. Duluth
 Rokala, H. E. Biwabik
 Rood, D. C. Duluth
 Rosenfield, A. B. Hibbing
 Rowe, O. W. Duluth
 Rowles, E. K. Coleraine
 Rudie, P. S. Duluth
 Ryan, W. J. Duluth
 Sach-Rowitz, Alvan Moose Lake
 Salter, R. A. Virginia
 Sarff, O. E. Duluth
 Sax, S. G. Duluth
 Scherer, C. A. Duluth
 Schroder, C. H. Duluth
 Schweiger, T. R. Hibbing
 Seashore, R. T. Duluth
 Shapiro, E. Z. Duluth
 Shastid, T. H. Duluth
 Shaw, A. W. Virginia
 Sinamark, Andrew Hibbing
 Sisler, C. E. Grand Rapids
 Slyfield, F. F. Duluth

Smith, C. M. Duluth
 Smith, S. J. Eveleth
 Smith, W. R. Grand Marais
 Spang, A. J. Duluth
 Spicer, F. W. Duluth
 Spurbeck, R. G. Cloquet
 Strathern, M. L. Gilbert
 Strobel, W. G. Duluth
 Stuart, A. B. Cloquet
 Sukeforth, L. A. Duluth
 Sutherland, H. N. Ely
 Swanson, P. E. Virginia
 Swenson, A. O. Duluth
 Taylor, C. W. Duluth
 Tibbetts, M. H. Duluth
 Tilderquist, D. L. Duluth
 Tuohy, E. L. Duluth
 Urberg, S. E. Duluth
 Van Valkenberg, J. D. Floodwood
 Vercellini, C. E. Duluth
 Walker, A. E. Duluth
 Wallace, M. O. Duluth
 Watson, C. G. Soudan
 Webster, E. E. Duluth
 Wellman, T. G. Virginia
 Wells, A. H. Duluth
 Wheeler, D. W. Duluth
 Wilkinson, Stella L. Duluth
 Winter, J. A. Duluth
 Young, T. O. Duluth
 Young, V. A. Duluth
 Zlatovski, M. L. Duluth

SCOTT-CARVER COUNTY MEDICAL SOCIETY

Regular meetings, second Tuesday of the month

Annual meeting, June

Number of Members: 34

President
 Crow, E. R. Arlington
Secretary
 Pearson, B. F. Shakopee
 Buck, F. H. Shakopee
 Cervenka, C. F. New Prague
 Crow, E. R. Arlington
 Dowidat, R. W. Cologne
 Eklund, E. J. Norwood
 Emmerson, W. S. Shakopee
 Fischer, H. P. Shakopee
 Garthe, J. J. Shakopee

Havel, H. W. Jordan
 Hebeisen, M. B. Chaska
 Henriksen, H. G. Northfield
 Juergens, H. M. Belle Plaine
 Klein, J. C. Shakopee
 Kortsch, F. P. Prior Lake
 Kucera, S. T. Lonsdale
 Maertz, W. F. New Prague
 Malerich, J. A. Shakopee
 Martin, T. F. Arlington
 Nagel, H. D. Waconia
 Novak, E. E. New Prague
 Olson, C. J. Belle Plaine

Ormond, D. T. Waconia
 Pearson, B. F. Shakopee
 Phillips, W. H. Jordan
 Pogue, R. E. Watertown
 Reiter, H. W. Shakopee
 Rick, P. F. W. St. Paul
 Schimelpfenig, G. T. Chaska
 Shrader, B. S. Jordan
 Simons, B. H. Chaska
 Westernman, A. E. Montgomery
 Westernman, F. C. Montgomery
 Woodworth, L. F. Le Center
 Wunder, H. E. Shakopee

SOUTHWESTERN MINNESOTA MEDICAL SOCIETY

Cottonwood, Jackson, Murray, Nobles, Pipestone and Rock Counties

Regular meetings, November and April

Annual meeting, November

Number of Members: 61

President
 Waller, J. D. Wilmont
Secretary
 DeBoer, Hermanus Edgerton
 Arnold, E. W. Adrian
 Basinger, H. P. Windom
 Basinger, H. R. Mountain Lake
 Beckering, Gerrit Edgerton
 Benjamin, W. G. Pipestone
 Bofenkamp, F. W. Luverne
 Bong, J. H. Jasper
 Brown, A. H. Pipestone
 Carlson, J. V. Westbrook
 Chadbourne, A. G. Heron Lake
 Chunn, S. S. Pipestone
 Clark, H. H. Edgerton
 Cress, P. J. Ellsworth
 DeBoer, Hermanus Edgerton
 Dolan, C. P. Worthington
 Doman, V. W. Lakefield
 Doms, H. C. Slayton

Dudley, J. H. Windom
 Engh, Sigfred Jackson
 Halloran, W. H. Jackson
 Halpern, D. J. Brewster
 Harrison, P. W. Worthington
 Hebbel, Robert Lakefield
 Hitchings, W. S. Windom
 Hoyer, L. J. Windom
 Johnson, R. E. Worthington
 Kelling, L. F. Lakefield
 Kilbride, E. A. Worthington
 Kilbride, J. S. Worthington
 Larson, J. T. Lake Wilson
 Lohmann, J. G. Jasper
 *Lowe, Thomas Pipestone
 Maitland, D. P. Jackson
 Maitland, E. T. Jackson
 McCrea, J. M. Fulda
 McElmeel, E. F. Pipestone
 McLane, Evelyn G. Jackson
 McLane, W. O. Jackson
 Mork, B. O., Jr. Worthington
 Mork, B. O., Sr. Worthington

Nealy, D. E. Adrian
 Pankratz, P. J. Mountain Lake
 *Patterson, W. E. Westbrook
 Piper, W. A. Mountain Lake
 Rose, J. T. Lakefield
 Schade, F. L. Worthington
 Schutz, E. S. Mountain Lake
 Sether, A. F. Ruthton
 Settlage, A. F. E. Worthington
 Sherman, C. L. Luverne
 Sjoström, L. E. Storden
 Slater, S. A. Worthington
 Sogge, L. L. Windom
 Stanley, C. R. Worthington
 Stevenson, B. M. Fulda
 Stratte, H. C. Windom
 Thorson, E. O. Minneapolis
 Toft, Josephine Minneapolis
 Waller, J. D. Wilmont
 Wells, W. B. Jackson
 Williams, C. A. Pipestone
 Williams, L. A. Slayton
 Wright, C. O. Luverne

STEARNS-BENTON COUNTY MEDICAL SOCIETY

Regular meetings, third Thursday of the month

Annual meeting, third Thursday of December

Number of Members: 55

President
 Wenner, W. T. St. Cloud
Secretary
 Libert, J. N. St. Cloud
 *Deceased.

Adams, L. P. St. Cloud
 Barringer, P. E. St. Cloud
 Beuning, J. B. St. Cloud
 Brigham, C. F. St. Cloud
 Buscher, J. C. St. Cloud
 Clark, H. B. St. Cloud

Deagen, J. R. Freeport
 Donaldson, C. S. Foley
 DuBois, J. F. Sauk Center
 Engstrom, G. F. Belgrade
 Evans, L. M. Sauk Rapids
 Fleming, T. N. St. Cloud

Freeman, W. L.....St. Cloud
Friesleben, William.....Sauk Rapids
Gaida, J. B.....St. Cloud
Goehrs, H. W.....St. Cloud
Haberman, Emil.....Osakis
Halenback, P. L.....St. Cloud
Hemstead, Werner.....Brainerd
Hendrickson, R. R.....St. Cloud
Henry, C. J.....Milaca
Holdridge, George.....Foley
Johnson, Walfred.....Sauk Center
Jones, R. N.....St. Cloud
Kern, M. J.....St. Cloud
Kettlewell, R. B.....Sauk Center

Kingsbury, E. M.....Clearwater
Kohler, D. W.....St. Joseph
Koop, H. E.....Cold Spring
Koop, S. H.....Richmond
Kuhlmann, August.....Melrose
Lewis, C. B.....St. Cloud
Libert, J. N.....St. Cloud
Mahowald, A.....Albany
Mass, Max.....Chicago, Ill.
McDowell, J. P.....St. Cloud
Meyer, A. A.....Melrose
Myre, C. R.....Paynesville
Rathbun, C. A.....St. Cloud
Richards, W. B.....St. Cloud
Rumpf, W. H.....St. Cloud

Sandven, N. O.....Paynesville
Schatz, F. J.....St. Cloud
Sher, D. A.....Cold Spring
Sherwood, G. E.....Kimball
Stangl, Fred.....St. Cloud
Stangl, P. E.....St. Cloud
Stewart, N. E.....St. Cloud
Sutton, C. S.....St. Cloud
Townsend, De Wayne.....Brooklyn
Walfred, K. A.....St. Cloud
Watson, W. J.....Holdingford
Wenner, W. T.....St. Cloud
Wiechman, F. H.....Cass Lake
Zachman, A. H.....Melrose

STEELE COUNTY MEDICAL SOCIETY

Regular meetings, March, June, September, December

Annual meeting, January

Number of Members: 16

President
McEnaney, C. T.....Owatonna
Secretary
Roberts, O. W.....Owatonna
Berghs, L. V.....Owatonna
Carlson, V. W.....Bloomington

Dewey, D. H.....Owatonna
Ertel, E. Q.....Ellendale
Farabaugh, C. L.....Owatonna
Hartung, E. H.....Claremont
Kreuzer, T. C.....Owatonna
McEnaney, C. T.....Owatonna
McIntyre, J. A.....Owatonna
Melby, Benedik.....Bloomington

Morehead, D. E.....Owatonna
Nelson, E. J.....Owatonna
Roberts, O. W.....Owatonna
Schaefer, J. F.....Owatonna
Senn, E. W.....Owatonna
Smersh, J. F.....Owatonna
Stewart, A. B.....Owatonna

UPPER MISSISSIPPI MEDICAL SOCIETY

Aitkin, Beltrami, Cass, Clearwater, Crow Wing, Hubbard

Koochiching, Lake of the Woods, Morrison, Todd and Wadena Counties

Annual meeting, January

Number of Members: 91

President
Carlson, H. A.....Ah-Gwah-Ching
Secretary
Badeaux, G. I.....Brainerd
Adkins, G. H.....Pine River
Badeaux, G. I.....Brainerd
Beise, R. A.....Brainerd
Borgerson, A. H.....Sebeka
Bosland, H. G.....Verdale
Bray, K. E.....Park Rapids
Campbell, R. W.....Cass Lake
Cardle, G. E.....Brainerd
Carlson, C. E.....Aitkin
Carlson, H. A.....Ah-Gwah-Ching
Christie, G. R.....Long Prairie
Christie, R. L.....Long Prairie
Cook, J. M.....Staples
Corrigan, J. E.....Waycross, Ga.
Davis, L. F.....Wadena
Davis, L. T.....Wadena
Davis, R. D.....Clearbrook
Davis, T. C.....Wadena
East, John.....Northome
Eiler, John.....Park Rapids
Ericson, M. G.....Long Prairie
Fait, R. V.....Little Falls
Fitzsimons, W. E.....Brainerd
Frost, H. T.....Wadena
Garlock, A. V.....Brainerd
Garlock, D. H.....Brainerd
Gerber, M. F.....Brainerd

Ghostley, Mary C.....Puposky
Gifford, B. L.....Long Prairie
Gilmore, Rowland.....Brainerd
Gorenflo, Leila.....Cass Lake
Grogan, J. S.....Wadena
Groschupf, T. P.....Brainerd
Grose, F. N.....Clarissa
Halliday, G. J.....Brainerd
Haller, William.....Brainerd
Hanover, R. D.....Littlefork
Hawkinson, J. P.....Croby
Hawkinson, L. F.....Oakland, Calif.
Healy, R. T.....Pierz
Hesselgrave, S. S.....St. Paul
Holst, C. F.....Little Falls
Holst, J. B.....Little Falls
House, Z. E.....Cass Lake
Houston, D. M.....Park Rapids
Hubbard, O. E.....Brainerd
Hubin, E. G.....Deerwood
Jacobson, D. E.....Brainerd
Jameson, E. F.....Brainerd
Johnson, C. E.....Pine River
Johnson, D. L.....Little Falls
Johnson, E. W.....Brainerd
Kelly, B. W.....Aitkin
Lamb, H. L.....Little Falls
Larson, L. J.....Bagley
Laughlin, J. T.....Grev Eagle
Lee, H. W.....Brainerd
Leemhuis, G. H.....McGregor
Lenarz, A. J.....Browerville

Lund, W. J.....Staples
Marcum, E. H.....Brainerd
Mason, J. A.....International Falls
McCann, D. F.....Brainerd
Mosby, M. E.....Long Prairie
Mulligan, A. M.....Brainerd
Murray, R. A.....Aitkin
Nelson, N. P.....Brainerd
Osburn, B. F.....International Falls
Petraborg, H. T.....Aitkin
Pierce, C. H.....Wadena
Potek, David.....International Falls
Quannstrom, V. E.....Brainerd
Ratcliffe, J. J.....Aitkin
Reichelderfer, C. F.....Staples
Ringle, O. F.....Walker
Roberts, L. M.....Little Falls
Shannon, S. S.....Croby
Simons, E. J.....Swanville
Smith, B. A.....Croby
Stein, R. J.....Pierz
Swedenburg, P. A.....Brainerd
Thabes, T. A., Jr.....Brainerd
Thabes, J. A. Sr.....Brainerd
Vandersluijs, C. W.....Brainerd
Watson, A. M.....Royalton
Watson, J. D.....Holdingford
Watson, P. T.....Cass Lake
Whittemore, D. D.....Brainerd
Will, W. W.....Bertha
Wilson, V. O.....Minneapolis
Withrow, M. E.....International Falls

WABASHA COUNTY MEDICAL SOCIETY

Regular meetings, March, October

Annual meeting, first Thursday after first Monday in October

Number of Members: 14

President
Bouquet, B. J.....Wabasha
Secretary
Wilson, W. F.....Lake City
Bayley, E. C.....Lake City

Bouquet, B. J.....Wabasha
Cochrane, W. J.....Lake City
Collins, J. S.....Wabasha
Ellis, E. W.....Elgin
Flesche, B. A.....Lake City
Frost, R. H.....Wabasha

Glabe, R. A.....Plainview
Holt, G. W.....Wabasha
Mahle, D. G.....Plainview
Oehmer, C. G.....Wabasha
Replogle, W. H.....Wabasha
Sloumb, J. A.....Plainview
Wilson, W. F.....Lake City

WASECA COUNTY MEDICAL SOCIETY

Regular meetings, none

Annual meeting, January

Number of Members: 10

President
Chadbourne, C. R.....Janesville
Secretary
Olds, G. H.....Waseca
*Deceased.

Bernstein, W. C.....New Richland
Chadbourne, C. R.....Janesville
Cummings, D. W.....Waseca
Gallagher, B. J.....Waseca
Hottinger, R. C.....Janesville

McIntire, H. M.....Waseca
Oeljen, S. C. G.....Waseca
Olds, G. H.....Waseca
Swenson, O. J.....Waseca
Wadd, C. T.....Waseca

WASHINGTON COUNTY MEDICAL SOCIETY

Regular meetings, second Tuesday in January, February, March, April, May, September, October
November and December

Annual meeting second Tuesday in December

Number of Members: 17

President
McCarten, F. M.....Stillwater

Secretary
Boleyn, E. S.....Stillwater
Boleyn, E. S.....Stillwater
Brooks, G. F.....Stillwater

Ewald, R. P.....Newport
Gray, R. C.....Stillwater
Haines, J. H.....Stillwater
Humphrey, W. R.....Stillwater
Johnson, R. G.....Stillwater
Josewski, R. J.....Stillwater
Kalinoft, D.....Stillwater

McCarten, F. M.....Stillwater
Mingo, F. E.....Hugo
Poirier, J. A.....Forest Lake
Ruggles, G. McC.....Forest Lake
Samson, E. R.....Stillwater
Strand E. V.....Bayport
Street, Bernard.....Stillwater
Stuhr, J. W.....Stillwater

WATONWAN COUNTY MEDICAL SOCIETY

Regular meeting, at call

Annual meeting, December

Number of Members: 8

President
Hammar, L. M.....Butterfield

Secretary
Grimes, H. B.....Madelia

Bergman, O. B.....St. James
Bratrude, E. J.....St. James
Bregel, F. L.....St. James
Grimes, H. B.....Madelia

Hagen, O. E.....Butterfield
Hammar, L. M.....Butterfield
McCarthy, W. J.....Madelia
Thompson, Albert.....St. James

WEST CENTRAL MINNESOTA MEDICAL SOCIETY

Big Stone, Pope, Stevens, and Traverse Counties

Regular meetings, March, May, October, December

Annual meeting October

Number of Members: 26

President
McIver, B. A.....Lowry

Secretary
Linde, Herman.....Cyrus
Arneson, A. L.....Morris
Behmler, F. W.....Morris
Bergan, Otto.....Clinton
Bolsta, Charles.....Ortonville
Caine, C. E.....Morris
Cumming, J. F.....Morris

Doleman, N. F.....Tintah
Eberlin, E. A.....Glenwood
Elsey, E. McC.....Glenwood
Elsey, J. R.....Glenwood
Engdahl, F. W.....Ortonville
Ewing, C. F.....Wheaton
Fitzgerald, E. T.....Morris
Garrow, D. M.....Graceville
Giesen, A. F.....Starbuck
Karn, B. R.....Ortonville

Lindberg, A. L.....Wheaton
Linde, Herman.....Cyrus
McIver, B. A.....Lowry
Mooney, L. P.....Graceville
Muir, W. F.....Graceville
O'Donnell, D. M.....Ortonville
Oliver, C. L.....Graceville
Oliver, I. L.....Graceville
Ransom, M. L.....Hancock
Shelver, H. J.....Ortonville

WINONA COUNTY MEDICAL SOCIETY

Regular meetings, first Monday in January, April, July, October

Annual meeting, first Monday in January

Number of Members: 29

President
Page, R. L.....St. Charles

Secretary
Steiner, I. W.....Winona
Benoit, F. T.....Winona
Christensen, E. E.....Winona
Heise, W. F. C.....Winona
Heise, W. V.....Winona
Jacobs, L. G.....Winona
Keyes, J. D.....Winona
Lindsay, W. V.....Winona

Loomis, G. L.....Winona
Mattison, P. A.....Winona
McLaughlin, E. M.....Winona
Meinert, A. E.....Winona
Nauth, W. W.....Winona
Neumann, C. A.....Winona
Nilles, L. J.....Rollingstone
Page, R. L.....St. Charles
Risser, E. D.....Winona
Robbins, C. P.....Winona
Roemer, H. J.....Winona

Roth, F. D.....Lewiston
Satterlee, H. W.....Lewiston
Schaefer, Samuel.....Winona
Steiner, I. W.....Winona
Tweedy, G. J.....Winona
Tweedy, J. A.....Winona
Tweedy, R. B.....Winona
Walker, G. H.....Winona
Whetstone, S. D.....Winona
Wilson, R. H.....Winona
Younger, L. I.....Winona

WRIGHT COUNTY MEDICAL SOCIETY

Regular meetings, quarterly

Annual meeting, first Wednesday after first Monday in October

Number of Members: 18

President
Catlin, T. J.....Buffalo

Secretary
Catlin, J. J.....Buffalo
Anderson, W. P.....Buffalo
Bendix, L. H.....Annandale
Catlin, J. J.....Buffalo

Catlin, T. J.....Buffalo
Ellison, F. E.....Monticello
Greenfield, W. T.....Delano
Grundset, O. J.....Montrose
Harriman, L.....Howard Lake
Hart, W. E.....Monticello
Lee, J. L.....Watertown
Peterson, O. L.....Cokato

Phillips, A. E.....Delano
Ridgway, A. M.....Annandale
Roholt, C. L.....Waverly
Rohlg, D. H.....Howard Lake
Rousseau, Victor.....Maple Lake
Thielen, R. D.....St. Michael
Thompson, Arthur.....Cokato

ALPHABETIC ROSTER

Aagaard, G. N., Jr. Minneapolis
Aanes, A. M. Red Wing
Aanes, A. R. Red Wing
Abbott, C. B. Springfield
Abbott, J. S. St. Paul
Aborn, W. H. Hawley
Abraham, A. L. Duluth
Abramson, Milton. Minneapolis
Adams, B. S. Hibbing
Adams, J. M. Minneapolis
Adams, L. P. St. Cloud
Adams, R. C. Bird Island
Adams, R. C. Rochester
Addington, E. A. Rochester
Addy, E. R. Gilbert
Adkins, C. M. Thief River Falls
Adkins, G. H. Pine River
Adson, A. W. Rochester
Affeldt, D. E. Kasson
Ahl, C. W. Hibbing
Ahlis, J. J. Caledonia
Ahrens, A. E. St. Paul
Ahrens, A. H. St. Paul
Ahrens, R. S. Minneapolis
Aitkens, H. B. La Center
Akester, Ward. Marshall
Akins, W. M. Eveleth
Alberts, M. W. St. Paul
Alden, J. F. St. Paul
Alexander, F. H. St. Paul
Alexander, H. A. Minneapolis
Aling, C. A. Minneapolis
Allen, A. W. Austin
Allen, C. C. Austin
Allen, E. V. N. Rochester
Allen, H. W. Minneapolis
Allen, H. B. Austin
Allison, R. G. Minneapolis
Altnow, H. O. Minneapolis
Alvarez, W. C. Rochester
Amberg, Samuel. Rochester
Andersen, A. G. Minneapolis
Anersen, S. C. Minneapolis
Anderson, D. D. Minneapolis
Anderson, E. D. Minneapolis
Anderson, E. M. La Crosse
Anderson, E. R. Minneapolis
Anderson, F. J. Minneapolis
Anderson, H. R. Deer River
Anderson, J. K. Minneapolis
Anderson, K. W. Minneapolis
Anderson, M. J. Rochester
Anderson, N. E. Harmony
Anderson, P. A. Minneapolis
Anderson, R. E. Willmar
Anderson, S. H. Red Wing
Anderson, W. E. Thief River Falls
Anderson, W. P. Buffalo
Anderson, W. S. Minneapolis
Andreassen, E. C. Minneapolis
Andrews, R. N. Mankato
Andrews, R. S. Minneapolis
Annis, H. B. Minneapolis
Archer, G. F., Jr. Atlanta, Georgia
Arends, A. L. Sandstone
Arey, S. L. Excelsior
Arlander, C. E. Minneapolis
Arling, L. S. Minneapolis
Armstrong, E. L. Duluth
Armstrong, J. M. St. Paul
Arndt, H. W. Detroit Lakes
Arneason, A. I. Morris
Arnold, Anna W. Minneapolis
Arnold, D. C. Minneapolis
Arnold, E. W. Minneapolis
Arnold, J. E. Mountain Iron
Arquist, A. S. St. Paul
Arson, J. M. Benson
Arvidson, C. G. Minneapolis
Athens, A. G. Duluth
Aune, Martin. Minneapolis
Aurand, W. H. Minneapolis
Aurelius, J. R. St. Paul
Ausman, C. F. St. Paul
Autry, D. H. Rochester
Ayles, G. T. Ely

Bagley, C. M. Duluth
Bagley, Elizabeth C. Duluth
Bagley, W. R. Duluth
Bagwell, J. S., Jr. Rochester
Bailey, A. A. Rochester
Bailey, H. B. Fairmont
Bair, H. L. Rochester
Baken, M. P. Minneapolis
Baker, A. B. Minneapolis
Baker, A. C. Fergus Falls
Baker, A. T. Minneapolis
Baker, E. L. Minneapolis
Baker, H. R. Hayfield
Baker, Looe. Minneapolis
Baker, N. H. Fergus Falls
Baker, R. L. Hayfield
Baker, Theodore, Jr. Rochester
Bakkila, H. E. Duluth
Balcome, M. M. St. Paul
Balfour, D. C. Rochester
Balkin, S. G. Minneapolis
Barber, J. P. Minneapolis
Bardon, Richard. Duluth
Bargen, J. A. Rochester
Barker, N. W. Rochester
Barnes, A. R. Rochester
Barney, L. A. Duluth
Barr, L. C. Albert Lea
Barr, W. H. Wells
Barrett, E. E. Duluth
Barringer, P. E. St. Cloud
Barron, Moses. Minneapolis
Barry, L. W. St. Paul
Barness, Nellie O. N. St. Paul
Basinger, H. P. Windom
Basinger, H. R. Mountain Lake
Basom, W. C. Rochester
Bass, G. W. Minneapolis
Baxter, S. H. Minneapolis
Bayard, H. F. Minneapolis
Bayley, E. C. Lake City
Beadie, W. D. Cannon Falls
Beals, Hugh. St. Paul
Beard, A. H. Minneapolis
Becker, F. T. Duluth
Beckering, Gerrit. Edgerton
Beckman, W. G. Minneapolis
Bedard, R. E. Kankakee, Ill.
Bedford, E. W. Minneapolis
Beech, R. H. St. Paul
Beede, Ethel R. Faribault
Beek, H. O. St. Paul
Behmler, F. W. Morris
Behr, O. K. Crookston
Beise, R. A. Brainerd
Beiswanger, R. H. Wykoff
Beizer, L. H. Rochester
Bell, C. C. St. Paul
Bell, E. T. Minneapolis
Belote, G. B. Caledonia
Belzer, M. S. Minneapolis
Bender, J. H. Big Fork
Bendix, L. H. Annandale
Benedict, W. L. Rochester
Benep, J. L. St. Paul
Benesh, N. G. Minneapolis
Benham, E. W. Mankato
Benjamin, A. E. Minneapolis
Benjamin, E. G. Minneapolis
Benjamin, H. G. Minneapolis
Benjamin, W. G. Pipestone
Benn, F. G. Minneapolis
Bennett, R. L., Jr. Rochester
Bennion, P. H. St. Paul
Benoit, P. T. Crookston
Benson, K. T. Rochester
Bentley, N. P. St. Paul
Berdez, G. L. Duluth
Bergan, Otto. Clinton
Berge, D. O. Roseau
Bergen, C. T. Blue Earth
Berger, A. G. Minneapolis
Bergh, G. S. Minneapolis
Bergh, L. N. Montevideo
Berghs, L. V. Owatonna
Bergman, O. B. St. James
Bergquist, K. E. Battle Lake
Berkman, D. M. Rochester
Berkman, J. M. Rochester
Berkwitz, N. J. Minneapolis
Berlin, A. S. Hallock
Berman, Reuben. Minneapolis
Bernstein, W. C. New Richland
Berrisford, P. D. St. Paul
Bertelson, O. L. Crookston

Bessesen, A. N., Jr. Minneapolis
Bessesen, W. A. Minneapolis
Betlach, C. J. Chicago, Ill.
Beuning, J. B. St. Cloud
Bianco, A. J. Duluth
Bicek, J. F. St. Paul
Biedermann, Jacob. Thief River Falls
Bigelow, C. E. Dodge Center
Billings, R. E. Franklin
Binet, H. E. Grand Rapids
Binger, H. E. St. Paul
Binger, M. W. Rochester
Birge, R. F. Rochester
Birkland, O. N. Hibbing
Birnborg, T. L. St. Paul
Black, B. M. Rochester
Black, J. R. Rochester
Black, William. Mankato
Blacklock, S. S. Hibbing
Blake, James. Hopkins
Blake, James A. Hopkins
Blakely, C. C. Barnum
Blakey, A. R. Osakis
Blanchard, H. C. Fairmont
Blaustone, H. H. Minneapolis
Blegen, H. M. Warren
Bloedel, T. J. G. Thief River Falls
Blomberg, W. R. Princeton
Blumenthal, J. S. Minneapolis
Boardman, D. V. Twin Valley
Bock, R. A. St. Paul
Bockman, M. W. H. Minneapolis
Boeckmann, Egil. St. Paul
Boehme, E. J. Minneapolis
Bofenkamp, F. W. Luverne
Bohl, G. W. Ada
Bohland, E. H. St. Paul
Boies, L. R. Minneapolis
Bolender, H. L. St. Paul
Boley, E. S. Stillwater
Boline, C. A. Battle Lake
Bolsta, Charles. Ortonville
Boman, P. G. Duluth
Bong, J. H. Jasper
Boody, G. J., Jr. Dawson
Booth, A. E. Minneapolis
Boothby, W. M. Rochester
Boreen, C. A. Minneapolis
Borg, J. F. St. Paul
Borgerson, A. H. Sebeka
Borgeson, E. J. Minneapolis
Borman, C. N. Minneapolis
Borreson, Baldwin. Thief River Falls
Bosland, H. G. Vermilion
Bossert, C. S. Mora
Bossingham, O. N. Lake Benton
Bottolfson, B. T. Moorhead
Bouma, L. R. St. Paul
Bouman, H. A. H. Minneapolis
Bouquet, B. J. Wabasha
Bowen, R. L. Hibbing
Bowling, H. H. Rochester
Boyd, I. M. Alexander
Boyer, S. H. Duluth
Boynton, Ruth E. Minneapolis
Boysen, Herbert. Welcome
Boysen, John E. Pelican Rapids
Boysen, Peter. Pelican Rapids
Braasch, W. F. Rochester
Brand, G. D. St. Paul
Brand, W. A. Redwood Falls
Branton, A. F. Willmar
Branton, B. F. Willmar
Bratrud, A. F. Minneapolis
Bratrud, Edward. Thief River Falls
Bratrupe, E. J. St. James
Braverman, N. J. Duluth
Bray, E. R. St. Paul
Bray, K. E. Park Rapids
Bray, P. N. Duluth
Bray, R. B. Biwabik
Bregel, F. L. St. James
Brecke, H. J. Minneapolis
Brey, F. W. Wabasha
Briggs, J. F. St. Paul
Brigham, C. F. St. Cloud
Brigham, F. T. Watkins
Brink, A. M. Baudette
Brink, D. M. Isle
Broadie, T. E. St. Paul
Broders, A. C. Rochester
Brodie, W. D. St. Paul
Broker, W. S. Wadena
Brooks, C. N. Minneapolis

Brooks, G. F. Stillwater
Brown, A. E. Rochester
Brown, A. H. Pipestone
Brown, E. D. Paynesville
Brown, E. I. St. Paul
Brown, H. A. Rochester
Brown, H. O. Rochester
Brown, J. C. St. Paul
Brown, L. L. Crookston
Brown, P. W. Rochester
Brown, R. W. Rochester
Brown, H. C., Jr. Rochester
Brownstone, Manual. Sandstone
Brumm, H. J. Rochester
Brunsting, L. A. Rochester
Brusegard, J. F. Red Wing
Brutsch, G. C. Minneapolis
Bryant, F. L. Minneapolis
Buchstein, H. F. Shakopee
Buck, F. H. Duluth
Buckley, R. P. Duluth
Buie, L. A. Rochester
Bulinski, T. J. St. Paul
Bulkley, Kenneth. Minneapolis
Burch, E. P. St. Paul
Burch, F. E. St. Paul
Burchell, H. B. Rochester
Burnap, W. L. Fergus Falls
Burns, F. M. Milan
Burns, H. D. Albert Lea
Burns, M. A. Milan
Burns, R. M. St. Paul
Burton, C. G. St. Paul
Burton, J. L. Buhl
Buscher, J. C. St. Cloud
Bushard, W. J. Bird Island
Busher, H. H. St. Paul
Butler, John. Minneapolis
Butler, J. K. Rochester
Butt, H. R. Rochester
Butturif, C. R. Freeborn
Butzer, J. A. Mankato
Buzzelle, L. K. Minneapolis

Cabell, C. L. Rochester
Cable, M. L. Minneapolis
Cabot, Hugh. Rochester
Cabot, V. S. Minneapolis
Cady, J. B. Rochester
Cady, L. H. Minneapolis
Cain, C. L. St. Paul
Caine, C. E. Morris
Cairns, R. J. Sanborn
Calhoun, F. W. Albert Lea
Callahan, F. F. Pokegama
Callertrom, G. W. Minneapolis
Cameron, D. M. Rochester
Cameron, Isabell L. Minneapolis
Camp, J. D. Rochester
Camp, W. E. Minneapolis
Campbell, D. C. Rochester
Campbell, L. M. Minneapolis
Campbell, O. J. Minneapolis
Campbell, R. W. Cass Lake
Campbell, S. J. Rochester
Canfield, W. W. Houston
Cantwell, W. F. International Falls
Cardle, A. E. Minneapolis
Cardle, G. E. Brainerd
Carey, J. B. Minneapolis
Carlson, C. E. Aitkin
Carlson, H. A. Ah-Gwah-Chiris
Carlson, J. V. Westbrook
Carlson, Lawrence. Minneapolis
Carlson, L. T. Minneapolis
Carlson, V. W. Blooming Prairie
Carman, J. E. Detroit Lakes
Carmichael, F. A., Jr. Rochester
Caron, R. P. Minneapolis
Carroll, W. C. St. Paul
Carstens, C. F. Hibbing
Catlin, J. J. Buffalo
Catlin, T. J. Buffalo
Cavanor, F. T. Minneapolis
Cepelch, S. F. Redwood Falls
Cervenka, C. F. New Prague
Chadbourne, A. G. Heron Lake
Chadbourne, C. R. Janesville
Chambers, W. C. Blue Earth
Chapman, T. L. Duluth
Chatterton, C. C. St. Paul
Chauncey, L. R. Rochester
Chermak, F. G. Hibbing
Cherry, J. H. Rochester
Chesley, A. J. St. Paul
Chew, E. M. Seattle, Washington
Christensen, E. E. Winona
Christensen, E. P. Two Harbors
Christenson, G. R. Minneapolis
Christiansen, Andrew. St. Paul

Christianson, H. W. Minneapolis
Christie, G. R. Long Prairie
Christie, R. L. Long Prairie
Christison, J. T. St. Paul
Chunn, S. S. Pipestone
Clagett, O. T. Rochester
Clark, F. E. Duluth
Clark, H. B. St. Cloud
Clark, H. B., Jr. St. Paul
Clark, H. H. Edgerton
Clark, H. S. Minneapolis
Clark, L. W. Spring Valley
Clark, R. L., Jr. Rochester
Clark, T. C. Minneapolis
Clay, L. B. Minneapolis
Claydon, D. R. Red Wing
Claydon, H. F. Zumbrota
Claydon, L. E. Red Wing
Clement, J. B. Lester Prairie
Clement, T. G. Duluth
Cleveland, W. H. Rochester
Clifford, G. W. Alexandria
Clifton, T. A. Chatfield
Clothier, E. F. Elk River
Cochrane, B. B. Coleraine
Cochrane, W. J. Lake City
Cohen, B. A. Minneapolis
Cohen, S. S. Oak Terrace
Colby, W. L. St. Paul
Cole, H. B. Redwood Falls
Cole, J. G. Redwood Falls
Cole, W. H. St. Paul
Collie, H. G. St. Paul
Collins, A. N. Duluth
Collins, H. C. Duluth
Collins, J. S. Wabasha
Colvin, A. R. St. Paul
Colyer, G. E. Rochester
Combacker, L. C. Fergus Falls
Comfort, M. W. Rochester
Condit, W. H. Minneapolis
Condon, W. B. Rochester
Connor, C. E. St. Paul
Conway, J. F. Rochester
Cook, C. K. St. Paul
Cook, E. N. Rochester
Cook, H. W. Minneapolis
Cook, J. M. Staples
Cooney, H. C. Princeton
Cooper, C. C. St. Paul
Cooper, M. D. Winnebago
Cooperman, H. O. Minneapolis
Corbett, J. F. Minneapolis
Cornica, A. D. Minneapolis
Corrigan, J. E. Waycross, Ga.
Cosgriff, J. A. Olivia
Cottam, G. G. Minneapolis
Counsellor, V. S. Rochester
Countryman, R. S. St. Paul
Cowell, W. A. St. Peter
Coventry, W. A. Duluth
Coventry, W. D. Duluth
Cowan, G. M. Brimson
Cowan, E. W. North St. Paul
Cragg, R. W. Rochester
Craig, W. McK. Rochester
Cranmer, R. R. Minneapolis
Cranston, R. W. Minneapolis
Creedy, C. D. Minneapolis
Creighton, R. H. Minneapolis
Crenshaw, J. L. Rochester
Cress, E. E. Boyd
Cress, P. J. Ellsworth
Crew, J. E. Rochester
Critchfield, L. R. St. Paul
Cronin, T. D. Rochester
Cronwell, B. J. Austin
Crow, E. R. Arlington
Crumpacker, L. K. Rochester
Culligan, J. M. St. Paul
Cumming, J. F. Morris
Cumming, D. W. Waseca
Curtin, J. F. Minneapolis
Curtis, R. A. Le Center
Cusick, P. L. Rochester
Cutler, H. H. Rochester
Cutts, George. Minneapolis
Cutts, R. E. Minneapolis

Dack, L. G. St. Paul
Dady, E. E. Minneapolis
Dahl, E. O. Minneapolis
Dahl, G. A. Mankato
Dahl, J. A. Minneapolis
Dahlin, I. T. Aurora
Daigault, Oscar. Benson
Daniel, D. H. Minneapolis
Daniel, L. M. Minneapolis
Danielson, K. A. Litchfield

Danielson, Lennox. Litchfield
Darling, J. P. Rochester
Dart, L. O. Minneapolis
Daugherty, E. B. Marine-on-St. Croix
Daugherty, L. E. St. Paul
Davies, R. J. Nopeming
Davis, A. C. Rochester
Davis, B. F. Duluth
Davis, Herbert. St. Paul
Davis, I. G. Rushford
Davis, J. C. Minneapolis
Davis, L. F. Wadena
Davis, L. T. Wadena
Davis, R. D. Clearbrook
Davis, T. C. Wadena
Davis, William. St. Paul
Day, Lois A. Rochester
Deagen, J. R. Freeport
Dearing, W. H., Jr. Rochester
De Boer, Hermanus. Edgerton
Dedolph, Karl. St. Paul
Dedolph, T. H. Abraham
Delavan, P. A. St. Paul
Delmonico, E. J. Rochester
Delmore, J. L., Jr. Roseau
Delmore, J. L. Roseau
del Plaine, C. W. Minneapolis
Demo, P. W. Wells
Derauf, B. L. St. Paul
Derbyshire, R. C. Rochester
Desjardins, A. U. Rochester
Devereaux, T. J. Minneapolis
Dewey, D. H. Owatonna
Dickson, D. D. Rochester
Dickson, T. H. St. Paul
Diehl, H. S. Minneapolis
Diessner, H. D. Minneapolis
Dittman, G. C. St. Paul
Dix, C. R. Rochester
Dixon, C. F. Rochester
Dockerty, M. B. Rochester
Doehring, P. C., Jr. Rochester
Doering, R. E. Minneapolis
Dolan, C. P. Worthington
Dolder, F. C. Eyota
Doleman, N. F. Tintah
Doman, V. W. Lakefield
Doms, H. C. Slayton
Donaldson, C. S. Foley
Donath, D. H. Rochester
Donohue, P. F. St. Paul
Donovan, D. L. Albert Lea
Doolittle, L. E. Duluth
Dordal, John. Sacred Heart
Dorge, R. I. Minneapolis
Dornblaser, H. B. Minneapolis
Dorsey, G. C. Minneapolis
Doss, A. K. Rochester
Dovre, C. M. St. Paul
Dowdlat, R. W. Cologne
Dowsnell, W. J. Kerkhoven
Doxey, G. L. Minneapolis
Doyle, G. C. Duluth
Doyle, L. O. Minneapolis
Drake, C. B. St. Paul
Drake, C. R. Minneapolis
Dredge, H. P. Sandstone
Drill, H. E. Hopkins
Dripps, Della G. Rochester
Drought, W. W. Fergus Falls
Dry, T. J. Rochester
Dubbe, F. H. New Ulm
Dublin, William. Rochester
Du Bois, J. F. Sauk Centre
Dudley, J. H. Windom
Duff, E. R. Minneapolis
Dugan, L. F. Faribault
Dukelow, D. A. Minneapolis
Dumas, A. G. Minneapolis
Duncan, I. W. Moorhead
Dungay, N. S. Northfield
Dunlap, E. H. Minneapolis
Dunn, G. R. Minneapolis
Dunn, J. N. St. Paul
Duryea, W. M. Minneapolis
Dutton, C. E. Minneapolis
Dvorak, B. A. Minneapolis
Dwan, F. E. Minneapolis
Dworsky, S. D. Minneapolis
Dysterheit, A. F. Gaylord

Earl, G. A. St. Paul
Earl, J. R. St. Paul
Earl, Robert. St. Paul
East, John. Northome
Eaton, L. M. Rochester
Eberlin, E. A. Glenwood
Ecker, A. D. Rochester
Eckhardt, C. L. Minneapolis
Eckman, F. L. Duluth
Eckman, R. J. Duluth

Ederer, J. J. Mahanomen
Edlund, Gustaf. St. Paul
Edwards, J. W. St. Paul
Edwards, R. T. Elysian
Edwards, T. J. St. Paul
Ehrenberg, C. J. Minneapolis
Ehrlich, S. P. Minneapolis
Eich, M. A. Minneapolis
Eiler, John. Park Rapids
Eisenstadt, D. H. Minneapolis
Eitel, G. D. Minneapolis
Ekblad, J. W. Duluth
Eklund, E. J. Norwood
Elias, F. J. Duluth
Elkins, E. C. Rochester
Ellingson, A. R. Detroit Lakes
Elliott, W. S. Virginia
Ellis, E. W. Elgin
Ellison, D. E. Minneapolis
Ellison, F. E. Monticello
Elsey, E. M. Glenwood
Elsey, J. R. Glenwood
Ely, O. S. So. St. Paul
Emanuel, K. W. Duluth
Emerson, E. C. St. Paul
Emmerson, W. S. Mayer
Emmett, J. L. Rochester
Endress, E. K. Rochester
Engberg, E. J. Faribault
Engdahl, F. W. Ortonville
Englehart, P. C. Minneapolis
Engl, Sigfred. Jackson
Engle, D. E. Rochester
Engstrand, O. J. Minneapolis
Engstrom, G. F. Belgrade
Eppard, R. M. Cloquet
Erdmann, C. A. Minneapolis
Erich, J. B. Rochester
Erickson, A. O. Ivanhoe
Erickson, C. O. Rochester
Erickson, Eskil. Halstad
Erickson, R. E. Hector
Erickson, R. F. Minneapolis
Ericson, R. M. Minneapolis
Ericson, Swan. Le Sueur
Ericsson, M. G. Long Prairie
Ernest, G. C. H. So. St. Paul
Ertel, E. O. Ellendale
Eschley, E. C. St. Paul
Esser, John. Perham
Esser, O. J. Gibbon
Estrem, C. O. Fergus Falls
Estrem, T. A. Hibbing
Eusterman, G. B. Rochester
Evans, E. T. Minneapolis
Evans, L. M. Sauk Rapids
Evans, R. D. Minneapolis
Ewatts, A. B. Rochester
Ewald, R. P. O. Newport
Ewens, H. B. Virginia
Ewing, C. F. Wheaton

Faber, J. E. Rochester
Fahey, E. W. St. Paul
Fahr, C. E. Minneapolis
Fairchild, R. D. Rochester
Fait, R. V. Little Falls
Fankboner, A. V. Buhl
Fansler, W. A. Minneapolis
Farabaugh, C. L. Owatonna
Farriah, R. C. Sherburn
Fawcett, A. M. Renville
Fawcett, C. E. Stewartville
Fawcett, K. R. Duluth
Feeney, J. M. Minneapolis
Feldman, F. M. Rochester
Fellows, M. F. Duluth
Fenger, E. P. K. Oak Terrace
Ferguson, J. C. St. Paul
Ferris, D. O. Rochester
Fesenmaier, O. B. New Ulm
Fesler, H. H. St. Paul
Fetterly, Warren. Minneapolis
Feuding, J. C. Bovey
Fig, F. A. Rochester
Fine, B. A. Winsted
Fink, L. W. Minneapolis
Fink, W. H. Minneapolis
Fischer, H. P. Shakopee
Fischer, M. McC. Duluth
Fisher, H. C. Rochester
Fisher, I. L. Ceylon
Fisher, J. M. Fergus Falls
Fisketti, Henry. Duluth
Fitzgerald, D. F. Minneapolis
Fitzgerald, E. T. Morris
Fitzsimmons, W. E. Brainerd
Fjeldstad, C. A. Minneapolis
Flanagan, H. F. St. Paul
Flanagan, L. G. Austin

Flancher, L. H. Lake Park
Fleming, A. S. Minneapolis
Fleming, T. N. St. Cloud
Flesche, B. A. Lake City
Flinn, T. E. Redwood Falls
Flom, M. G. Zumbrota
Fogarty, C. W. St. Paul
Fogelberg, E. J. St. Paul
Foley, F. E. B. St. Paul
Foley, M. P. Los Angeles, Calif.
Folken, F. G. Albert Lea
Forbes, R. S. Duluth
Ford, B. C. Marshall
Ford, W. H. Minneapolis
Foshager, H. T. Clara City
Foster, W. K. Minneapolis
Fowler, L. H. Minneapolis
Franchere, F. W. Lake Crystal
Francis, D. W. Morristown
Frank, J. E. Marshall
Fredericks, G. M. Minneapolis
Frederickson, Alice C. Willmar
Frederickson, G. U. Y. Willmar
Freeman, C. D. St. Paul
Freeman, G. H. St. Peter
Freeman, J. P. Albert Lea
Freeman, W. L. St. Cloud
Friedman, L. L. St. Paul
Freligh, W. P. Albert Lea
Fricke, R. E. Rochester
Friedell, Aaron. Minneapolis
Friedell, M. T. Rochester
Friesleben, William. Sauk Rapids
Frisch, F. P. Willmar
Fritsche, Albert. New Ulm
Fritsche, C. J. New Ulm
Fritzsche, T. R. New Ulm
Fritz, W. L. St. Paul
Fritzell, K. E. Minneapolis
Froats, C. W. St. Paul
Frost, E. H. Willmar
Frost, H. T. Wadena
Frost, R. H. Wabasha
Fugina, G. R. Mankato
Fuller, Alice H. Minneapolis
Funk, V. K. Oak Terrace

Gaarde, F. W. Rochester
Gager, E. C. St. Paul
Gaida, J. B. St. Cloud
Gaines, E. C. Buffalo Lake
Gallagher, B. J. Waseca
Gamble, J. W. Albert Lea
Gamble, P. M. Albert Lea
Gammell, J. H. Minneapolis
Garbrecht, A. W. St. Paul
Gardiner, D. G. St. Paul
Gardner, E. L. Minneapolis
Gardner, J. W. Rochester
Gardner, V. H. Fairmont
Gardner, W. P. Anoka
Garlock, A. V. Bemidji
Garlock, D. H. Bemidji
Garrow, M. M. Graceville
Garthe, J. J. Shakopee
Geer, E. K. St. Paul
Gehlen, J. N. St. Paul
Gendron, J. F. X. Grand Rapids
Gerber, M. P. Brainerd
Geromo, Charles. Balaton
Ghent, C. H. St. Paul
Ghormley, R. K. Rochester
Ghostley, Mary C. Puposky
Gibbons, F. C. Comfrey
Gibbs, E. C. St. Paul
Giere, E. O. Minneapolis
Giere, J. C. Minneapolis
Giere, R. W. Minneapolis
Giere, S. W. Benson
Giesen, A. F. Starbuck
Giessler, P. W. Minneapolis
Giffin, H. M. Rochester
Giffin, H. Z. Rochester
Giffin, L. A. Rochester
Gifford, B. L. Long Prairie
Gilbert, M. G. Minneapolis
Gilflilan, J. S. St. Paul
Gilkey, S. E. St. Paul
Gilles, S. E. Minneapolis
Gillespie, M. G. Duluth
Gillespie, N. H. Duluth
Gilmore, Rowland. Bemidji
Ginsberg, William. St. Paul
Giroux, A. A. Moose Lake
Girvin, R. B. Minneapolis
Glabe, R. A. Plainview
Goblirsch, A. P. Sleepy Eye
Goehrs, H. W. St. Cloud
Golberg, M. L. Minneapolis
Goldberg, I. M. Minneapolis

Goldish, D. R. Duluth
Goldman, T. I. Minneapolis
Goltz, E. V. St. Paul
Good, C. A., Jr. Rochester
Good, H. D. Minneapolis
Goodman, C. E. Virginia
Goodson, W. H., Jr. Rochester
Gordon, P. E. Minneapolis
Gore, H. R. St. Paul
Gorenflo, Leila A. Cass Lake
Gosslee, G. L. Moorhead
Gowan, L. R. Duluth
Graham, Robert. Duluth
Graham, R. W. Rochester
Grant, H. W. St. Paul
Gratzek, Thomas. St. Paul
Grau, R. K. St. Paul
Grave, Floyd. Minneapolis
Graves, R. B. Red Wing
Graves, W. N. Duluth
Gray, F. D. Marshall
Gray, H. K. Rochester
Gray, R. C. Stillwater
Greenberg, H. A. St. Paul
Greene, L. F. Rochester
Greenfield, W. T. Delano
Griegg, R. O. Rochester
Griffin, P. J. Fertile
Grimes, B. P. St. Peter
Grimes, H. B. Madelia
Grimes, Marian. Minneapolis
Grindlay, J. H. Rochester
Grise, W. B. Austin
Griswold, F. E. Hoffman
Groff, J. E. Rochester
Grogan, J. S. Wadena
Gronvall, P. R. Minneapolis
Groschupf, T. P. E. Bemidji
Grose, F. N. Clarissa
Gruenhaugen, A. P. St. Paul
Grundset, O. J. Montrose
Guernsey, C. M. Rochester
Gullixson, Andrew. Albert Lea
Gully, R. J. St. Peter
Gunderson, N. A. Minneapolis
Gunderson, R. M. Lake Park
Gunlaugson, F. G. Mankato
Gushurst, E. G. Minneapolis
Gustason, H. T. Minneapolis

Habein, H. C. Rochester
Haberman, Emil. Osakis
Hacking, F. H. Minneapolis
Haessly, S. B. Faribault
Hagaman, G. K. St. Paul
Hagen, O. E. Butterfield
Hagen, O. J. Moorhead
Hagyard, G. D. Minneapolis
Haight, G. G. Audubon
Haines, J. H. Stillwater
Haines, S. F. Rochester
Halenbeck, P. L. St. Cloud
Hall, A. R. St. Paul
Hall, B. E. Rochester
Hall, H. H. St. Paul
Hall, J. M. Minneapolis
Halladay, G. J. Brainerd
Hallberg, C. A. Minneapolis
Hallenbeck, D. F. Rochester
Haller, W. M. Bemidji
Halloran, W. H. Jackson
Halpern, D. J. Brewster
Halpin, J. E. Rush City
Hamel, A. L. Minneapolis
Hamilton, A. S. Minneapolis
Hamilton, G. B. Minneapolis
Hammar, L. M. Butterfield
Hammer, H. J. Rochester
Hammermeister, T. F. New Ulm
Hammerstad, L. M. Minneapolis
Hammes, E. M. St. Paul
Hammond, A. I. H. Minneapolis
Hammond, J. F. St. Paul
Hand, W. L. Elbow Lake
Haney, C. R. Duluth
Hankerson, R. G. Minnesota Lake
Hannah, H. B. Minneapolis
Hanover, R. O. Littlefork
Hansen, C. O. Minneapolis
Hansen, E. W. Minneapolis
Hansen, Olga S. Minneapolis
Hanson, A. M. Faribault
Hanson, E. C. Austin
Hanson, E. O. Cloquet
Hanson, E. C. New York Mills
Hanson, H. B. St. Paul
Hanson, H. J. Minneapolis
Hanson, H. V. Minneapolis
Hanson, M. B. Minneapolis
Hanson, W. A. H. Minneapolis

Happe, L. J. Minneapolis
Hargis, W. H., Jr. Rochester
Hargraves, M. M. Rochester
Harlow, H. D. Virginia
Harmon, G. E. St. Paul
Harriman, Leonard. Howard Lake
Harrington, C. D. Minneapolis
Harrington, C. E. Minneapolis
Harrington, S. W. Rochester
Harris, C. N. Hibbing
Harrison, M. W. Rochester
Harrison, P. W. Worthington
Hart, V. L. Minneapolis
Hart, W. E. Monticello
Hartshel, W. F. St. Paul
Hartley, E. C. St. Paul
Hartman, H. R. Rochester
Hartmann, C. M. Fairfax
Hartung, G. F. Red Wing
Hartung, E. H. Claremont
Hartzell, T. B. Minneapolis
Haskell, A. D. Alexandria
Hassett, M. F. St. Paul
Hassett, R. G. Mankato
Hastings, D. R. Minneapolis
Hatch, W. E. Duluth
Hathaway, S. J. Proctor
Hauge, M. L. Clarkfield
Hauge, M. E. Clarkfield
Haugseth, E. Twin Valley
Hauser, V. P. St. Paul
Havel, H. W. Jordan
Havel, T. E. Blue Earth
Haven, W. K. Minneapolis
Havens, F. Z. Rochester
Havens, J. G. W. Austin
Haverfield, Addie R. Minneapolis
Hawkins, V. J. St. Paul
Hawkinson, J. P. Crosby
Hawkinson, L. F. Oakland, Calif.
Hawkinson, R. P. Minneapolis
Hawn, H. W. Rochester
Hayden, R. O. Rochester
Hayes, J. M. Minneapolis
Hayes, M. F. Nashua
Haynes, A. L. Faribault
Hays, A. T. Minneapolis
Head, D. P. Minneapolis
Head, G. D. Minneapolis
Healy, R. T. St. Paul
Heath, A. C. Stillwater
Hebel, Robert. Windom
Hebeisen, M. B. Chaska
Heck, F. J. Rochester
Heck, W. W. St. Paul
Hedback, A. E. Minneapolis
Hedberg, G. A. Nopemung
Hedemark, H. H. Thief River Falls
Hedenstrom, P. G. St. Paul
Hedenstrom, L. H. Cambridge
Hedin, R. F. Chicago, Ill.
Hedlund, C. J. Atwater
Hegge, O. H. Austin
Hegge, R. S. Austin
Heiam, W. C. Cook
Heiberg, E. A. Fergus Falls
Heilman, Dorothy M. H. Rochester
Heilman, F. R. Rochester
Heim, R. R. Minneapolis
Heimark, J. J. Fairmont
Heimark, K. O. E. Duluth
Heise, W. F. C. Winona
Heise, W. V. Winona
Helferty, J. K. Tracy
Holland, G. M. Spring Grove
Holland, J. W. Spring Grove
Helm, Standiford. Rochester
Helmholz, H. F. Rochester
Helseth, H. K. Thief River Falls
Hempstead, B. E. Rochester
Hemstead, Werner. Brainerd
Hendrich, P. S. Rochester
Henderson, J. G. Kiester
Henderson, J. W. Rochester
Henderson, M. S. Rochester
Hendricks, Esten. Minneapolis
Hendrickson, J. F. Minneapolis
Hendrickson, R. R. St. Cloud
Hengstler, W. H. St. Paul
Henney, W. H. McIntosh
Henriksen, H. G. Northfield
Henrikson, E. C. Minneapolis
Henry, C. E. Minneapolis
Henry, C. J. Milaca
Henry, M. O. Minneapolis
Hensel, C. N. St. Paul
Henslin, A. E. Le Roy
Herbert, W. L. Granite Falls
Herbolzheimer, A. J. Minneapolis
Herbst, R. F. Minneapolis

Herman, A. L. Minneapolis
Herman, Samuel. St. Paul
Hermanson, P. E. Hendricks
Heron, R. C. St. Paul
Herrell, W. E. Rochester
Herrmann, E. T. St. Paul
Hertel, G. E. Austin
Hertz, C. S. Rochester
Hesselgrave, S. S. St. Paul
Hewitt, Edith S. Rochester
Hewitt, R. M. Rochester
Heyerdale, O. C. Rochester
Heyerdale, W. W. Rochester
Hiebert, J. P. Minneapolis
Higgins, J. H. Minneapolis
Hildebrand, Alice G. Duluth
Hilding, A. C. Duluth
Hilger, A. W. St. Paul
Hilger, D. D. St. Paul
Hilger, L. A. St. Paul
Hill, Eleanor J. Minneapolis
Hill, F. E. Duluth
Hilleboe, H. E. St. Paul
Hines, E. A., Jr. Rochester
Hiniker, L. P. St. Paul
Hiniker, P. J. Le Sueur
Hinshaw, H. C. Rochester
Hirschboeck, F. J. Duluth
Hirschfelder, A. D. Minneapolis
Hirschfeld, M. S. Duluth
Hirshfield, F. R. Minneapolis
Hitchings, W. S. Lakefield
Hoaglund, A. W. Minneapolis
Hobbs, C. A. Minneapolis
Hochfizer, J. J. St. Paul
Hodapp, R. J. Willmar
Hodge, S. V. Minneapolis
Hodgson, C. E. Rochester
Hodgson, H. H. Crookston
Hoff, Alfred. St. Paul
Hoff, H. O. Duluth
Hoffert, H. E. Minneapolis
Hoffman, M. H. St. Paul
Hoffman, H. O. E. Rochester
Hoffman, R. A. Minneapolis
Hoidale, A. D. Tracy
Holbrook, J. S. Mankato
Holcomb, J. T. St. Paul
Holcomb, G. W. St. Paul
Holdridge, G. A. Foley
Holl, P. M. Minneapolis
Hollands, W. H. Fisher
Hollister, C. B. H. Rochester
Holm, H. H. Glencoe
Holm, P. F. Wells
Holman, J. C. Rochester
Holmberg, C. J. Minneapolis
Holmberg, L. J. Canby
Holmen, R. W. St. Paul
Holmes, A. E. Rush City
Holmstrom, C. H. Warren
Holst, C. F. Little Falls
Holst, J. B. Little Falls
Holt, G. W. Wabasha
Holt, J. E. St. Paul
Holt, W. B. Minneapolis
Holtan, Theodore. Waterville
Holzanfel, F. C. Minneapolis
Hopkins, G. W. St. Paul
Horton, B. T. Rochester
Hottinger, R. C. Janesville
Houkom, Biarne. Minneapolis
House, Z. E. Cass Lake
Houston, D. M. Park Rapids
Hovde, Rolf. Winthrop
Hovland, M. L. Minneapolis
Howard, M. A. St. Paul
Howard, M. I. Mankato
Howard, W. S. St. Paul
Howell, L. P. Rochester
Hoyer, L. J. Windom
Hubbard, O. E. Brainerd
Hubin, E. G. Deerwood
Hudec, E. R. Echo
Huenekens, E. J. Minneapolis
Hulliek, R. B. St. Paul
Hultkrans, J. C. Minneapolis
Hultkrans, R. E. Minneapolis
Humphrey, E. W. Moorhead
Humphrey, W. R. Stillwater
Hunt, A. B. Rochester
Hunt, R. C. Fairmont
Hunte, A. F. Bvlas, Ariz.
Hurd, Annah. Minneapolis
Hurst, M. M. Hibbing
Hutchinson, C. J. Minneapolis
Hutchinson, Henry. Moose Lake
Huxley, F. R. Faribault
Hynes, Charles. Minneapolis
Hynes, J. E. Minneapolis

Ide, A. W. St. Paul
Ikeda, Kano. St. Paul
Ingebrigtsen, E. K. G. Moorhead
Ingerson, C. A. St. Paul
Irvine, H. G. Minneapolis
Jackman, R. J. Rochester
Jackson, C. M. Minneapolis
Jacobs, A. C. Elmore
Jacobs, D. L. Willmar
Jacobs, G. C. Fergus Falls
Jacobs, J. C. Willmar
Jacobs, L. G. Winona
Jacobson, Clarence. Chisholm
Jacobson, D. J. Bemidji
Jacquot, G. L. Marshall
Jameson, E. F. Brainerd
Jennings, Mary H. Minneapolis
Jenovese, J. Y. Rochester
Jensen, A. H. Hutchinson
Jensen, A. M. Brownston
Jensen, H. C. Minneapolis
Jensen, H. H. Minneapolis
Jensen, M. J. Minneapolis
Jensen, R. M. Rochester
Jensen, T. J. Duluth
Jerome, Bourne. Philadelphia, Pa.
Jesion, J. W. St. Paul
Johnson, W. G. St. Paul
Johnson, A. B. Minneapolis
Johnson, A. E. Red Wing
Johnson, A. E. Minneapolis
Johnson, A. M. St. Paul
Johnson, C. E. Pine River
Johnson, C. M. Dawson
Johnson, D. L. Little Falls
Johnson, D. W. Fairmont
Johnson, E. W. Bemidji
Johnson, E. W. Minneapolis
Johnson, H. C. North Mankato
Johnson, H. C. Thief River Falls
Johnson, Hans. Kerkhoven
Johnson, H. A. Minneapolis
Johnson, H. P. Fairmont
Johnson, H. P. Harmony
Johnson, J. A. St. Paul
Johnson, J. A. Minneapolis
Johnson, Julius. Minneapolis
Johnson, N. A. Minneapolis
Johnson, N. P. Minneapolis
Johnson, N. T. Minneapolis
Johnson, O. H. Redwood Falls
Johnson, O. J. Lyle
Johnson, O. V. Fergus Falls
Johnson, P. C. Tyler
Johnson, R. A. Minneapolis
Johnson, R. B. Lanesboro
Johnson, R. E. Minneapolis
Johnson, R. E. Worthington
Johnson, R. G. Stillwater
Johnson, S. M. Minneapolis
Johnson, T. H. San Francisco, Calif.
Johnson, Walfrid. Sauk Centre
Johnson, W. E. Morgan
Johnson, Y. T. Minneapolis
Jolin, F. M. Coleraine
Jolin, R. V. Grand Rapids
Jones, A. W. Red Wing
Jones, E. M. St. Paul
Jones, G. M. Minneapolis
Jones, H. W. Minneapolis
Jones, R. N. St. Cloud
Jones, W. R. Minneapolis
Jordan, L. S. Granite Falls
Josevich, Alexander. Minneapolis
Joseswki, R. J. Stillwater
Joyce, G. L. Rochester
Judd, E. S., Jr. Rochester
Jurgens, H. M. Belle Plaine
Juers, E. H. Red Wing
Juliar, R. O. St. Clair
Jump, W. C. Kasson
Kaasa, L. J. Albert Lea
Kalina, O. Minneapolis
Kalina, O. Stillwater
Kamman, G. R. St. Paul
Kamp, B. A. Albert Lea
Kannary, E. L. St. Paul
Kanne, C. W. Faribault
Kaplan, D. H. St. Paul
Karlstrom, A. E. Minneapolis
Karn, B. R. Ortonville
Kasper, E. M. St. Paul
Kath, R. H. Woodlake
Katzberg, L. W. Fergus Falls
Kaufman, E. J. Anoka
Kaufman, W. C. Appleton
Kearney, R. W. Rochester
Keating, F. R., Jr. Rochester

Keefe, R. E. St. Paul
Keith, N. M. Rochester
Kelby, G. M. Minneapolis
Kelling, L. F. Lakefield
Kelly, B. W. Aitkin
Kelly, J. V. St. Paul
Kelly, F. H. St. Paul
Kelsey, C. G. Hinckley
Kemp, A. F. Mankato
Kemp, M. W. Moose Lake
Keneffick, E. V. St. Paul
Kennedy, C. C. Minneapolis
Kennedy, Jane F. Minneapolis
Kennedy, R. L. J. Rochester
Kennedy, W. A. St. Paul
Keppler, E. J. Rochester
Kerkhof, A. C. Minneapolis
Kermott, L. H., Jr. Rochester
Kern, M. J. Rochester
Kernohan, J. W. St. Peter
Kerschbaumer, Luisa St. Peter
Kershner, C. M. Rochester
Kertesz, Geza Minneapolis
Kesting, Herman St. Paul
Kettlewell, R. B. Sauk Centre
Keyes, J. D. Winona
Kibbe, O. A. Minneapolis
Kibler, F. E. Austin
Kierland, P. E. Alexandria
Kierland, R. R. Rochester
Kiehl, I. H. Nashua
Kilbride, E. A. Worthington
Kilbride, J. S. Worthington
Killins, J. A. Rochester
Kindschi, L. G. Rochester
King, E. A. Minneapolis
King, G. L. St. Paul
King, H. T. Minneapolis
King, W. I. M. Rochester
Kingsbury, E. M. Clearwater
Kinsella, T. J. Minneapolis
Kirk, G. P. East Grand Forks
Kirkin, B. R. Rochester
Kirkin, O. L. Rochester
Kistler, A. J. Minneapolis
Kistler, C. M. Minneapolis
Klein, Harry Duluth
Klein, H. N. St. Paul
Klein, J. C. Shakopee
Klima, W. W. Stewart
Knapp, F. N. Duluth
Knapp, M. E. Minneapolis
Knauff, M. K. St. Paul
Knight, R. R. Minneapolis
Knight, R. Minneapolis
Knutson, G. A. Greenbush
Koch, Eleanor A. S. Rochester
Koch, F. L. P. New York, N. Y.
Koelsche, G. A. Rochester
Koepecke, G. M. Minneapolis
Koeppell, A. A. H. St. Paul
Kohlbray, C. O. Duluth
Kohler, D. W. St. Joseph
Kollars, J. J. Le Center
Koller, H. M. Minneapolis
Koller, L. R. Minneapolis
Koop, H. E. Cold Spring
Koop, S. H. Richmond
Korchik, J. P. Minneapolis
Kortsch, F. P. Prior Lake
Kostick, W. R. Fertile
Kotchevar, F. R. Eveleth
Kowallis, G. F. Rochester
Kozberg, Oscar Moose Lake
Kraft, Peter Duluth
Krantz, C. L. Duluth
Krause, C. W. Fairmont
Kreuzer, T. C. Owatonna
Krusen, F. H. Rochester
Kucera, F. J. Hopkins
Kucera, S. T. Lonsdale
Kucera, W. J. Minneapolis
Kugler, A. A. St. Paul
Kuhlmann, August Melrose
Kusske, A. L. New Ulm
Kuth, J. R. Duluth
Kvale, W. F. Rochester
Kvitrud, Gilbert St. Paul

Ea Bree, R. H. Chisholm
Laird, A. T. Nopeming
Lajoie, J. M. Minneapolis
Lamb, H. L. Little Falls
Lander, H. H. Rochester
Lang, L. A. Minneapolis
Langenderfer, F. V. St. Paul
Langhoff, A. H. Glencoe
Langmack, W. A. Cloquet

*Deceased.

Lannin, J. C. Mabel
Lapierre, A. P. Minneapolis
Lapierre, C. A. Minneapolis
Lapierre, J. T. Minneapolis
Larsen, C. L. St. Paul
Larsen, F. W. Minneapolis
Larsen, O. O. Detroit Lakes
Larsen, Arnold Detroit Lakes
Larsen, C. M. Minneapolis
Larson, J. T. Lake Wilson
Larson, L. J. Bagley
Larson, L. M. Minneapolis
Larson, L. M. Oak Terrace
Larson, P. N. Minneapolis
Laughlin, J. T. Grey Eagle
La Vake, R. T. Minneapolis
Lax, M. H. St. Paul
Laymon, C. W. Minneapolis
Lazar, H. L. Minneapolis
Leahy, Bartholomew St. Paul
Leavenworth, R. O. St. Paul
Leavitt, H. H. Minneapolis
Lebowski, J. A. Minneapolis
Leck, P. C. Austin
Le Clercq, G. T. A. Minneapolis
Ledd, E. T. Rochester
Lee, H. M. Minneapolis
Lee, H. W. Brainerd
Lee, J. L. Watertown
Lee, W. A. Fergus Falls
Lee, W. N. Madison
Leffel, J. M. J. Rochester
Leemhuis, G. H. McGregor
Leibold, H. H. Parkers Prairie
Leick, R. M. St. Paul
Leitch, Archibald St. Paul
Leitch, N. M. Warroad
Leland, H. R. Minneapolis
Leland, J. T. Herman
Lemon, W. S. Rochester
Lemander, M. E. St. Peter
Lenarz, A. J. Browerville
Lende, Norman Faribault
Lenont, C. B. Virginia
Lenz, J. R. Morton
Lenz, O. A. Minneapolis
Leonard, L. J. Minneapolis
Leonard, Samuel Minneapolis
Leopard, B. A. Albert Lea
Lepak, F. J. Duluth
Lepak, J. A. St. Paul
Lerche, William Cable, Wis.
Leven, N. L. St. Paul
Levin, B. G. St. Paul
Levitt, G. X. St. Paul
Lewis, A. J. Henning
Lewis, C. B. St. Cloud
Lewis, E. B. Rochester
Lexa, F. J. Lonsdale
Libert, J. N. St. Cloud
Lick, C. L. St. Paul
Liedloff, A. G. Mankato
Liffbrig, W. W. Goodhue
Lillehei, E. J. Robbinsdale
Lillie, H. Rochester
Lima, L. R. Montevideo
Limbirt, E. M. Rochester
Lind, C. J. Minneapolis
Lindberg, A. L. Wheaton
Linde, Herman Cyrus
Lindgren, R. C. Minneapolis
Lindquist, R. H. Minneapolis
Lindsay, W. V. Winona
Linner, H. P. Minneapolis
Linton, W. B. Minneapolis
Lipp, F. E. Appleton
Lippman, E. S. Minneapolis
Lippman, H. S. St. Paul
Lippmann, E. W. Hutchinson
Lipschultz, Oscar Minneapolis
Litchfield, J. T. Minneapolis
Litman, A. B. Minneapolis
Litman, S. N. Duluth
Little, W. J. St. Paul
Litzenberg, J. C. Minneapolis
Livingstone, J. W. Hudson, Wis.
Lloyd, H. J. Mankato
Lloyd, S. J. Mankato
Lochead, D. C. Rochester
Lockwood, W. W. Fort Peck, Mont.
Logan, A. H. Rochester
Logan, G. B. Rochester
Logefield, R. C. Minneapolis
Lohmann, J. G. Jasper
Loken, Theodore Ada
Lommen, P. A. Austin
Long, Jesse Minneapolis
Loofbourrow, E. H. Keewatin
Loomis, E. A. Minneapolis
Loomis, G. L. Winona

Love, F. A. Carlos
Love, J. G. Rochester
Lovelace, W. R. Rochester
Lovelady, S. B. Rochester
Lowe, E. R. So. St. Paul
*Lowe, Thomas Pipestone
Lowe, T. A. So. St. Paul
Luden, Georgine Victoria, B. C., Canada
Ludtke, G. H. Fairmont
Lufkin, C. D. Northfield
Lufkin, N. H. Minneapolis
Lund, C. J. T. Underwood
Lund, W. J. Staples
Lundblad, R. A. Minneapolis
Lundblad, S. W. Minneapolis
Lundgren, A. C. Minneapolis
Lundholm, A. M. St. Paul
Lundquist, E. F. Minneapolis
Lundy, J. S. Rochester
Lutz, E. H. Willmar
Lyght, C. E. Northfield
Lynch, F. W. St. Paul
Lynch, M. J. Minneapolis
Lynde, O. G. Thief River Falls
Lysne, Henry Minneapolis
Lysne, Myron Minneapolis

Macbeth, J. L. St. Clair
MacDonald, A. E. Minneapolis
MacDonald, D. A. Minneapolis
Macey, H. B. Rochester
MacFarlane, P. H. Chisholm
Mach, F. B. Minneapolis
Mack, J. J. Little Rock, Ark.
MacKay, A. R. Rochester
MacKinnon, D. C. Minneapolis
Macklin, W. E., Jr. Litchfield
MacLean, A. R. Rochester
Macnie, J. S. Minneapolis
MacRae, G. C. Duluth
Madding, J. F. St. Paul
Madding, G. F. Rochester
Madland, R. S. Fairfax
Maeder, E. C. Minneapolis
Maert, W. F. New Prague
Magath, T. B. Rochester
Magney, F. H. Duluth
Mahle, D. G. Plainview
Mahowald, Aloys Albany
Maitland, D. P. Jackson
Maitland, E. T. Jackson
Malay, C. O. Minneapolis
Malerich, J. O. Shakopee
Malloy, J. F. Thief River Falls
Malmstrom, J. A. Virginia
Manley, J. R. Duluth
Manley, L. V. Northampton, Mass.
Mann, A. S. Rochester
Mann, F. C. Rochester
Marcelly, D. M. Rochester
Marcelly W. J. Nopeming
Marcum, E. H. Bemidji
Mariette, E. S. Oak Terrace
Mark, D. B. Minneapolis
Marken, M. H. Fairmont
Marking, G. H. Osseo
Markoe, J. C. St. Paul
Marks, R. W. St. Paul
Marshall, Mary E. Rochester
Martina, E. T. Duluth
Martin, T. P. Arlington
Martin, W. C. Duluth
Martineau, J. L. St. Paul
Martinson, C. J. Wayzata
Mason, J. A. International Falls
Mass, Max Chicago
Masson, D. M. Rochester
Masson, J. C. Rochester
Matchan, G. R. Minneapolis
Matthews, Justus Minneapolis
Matthews, M. W. Rochester
Mattill, P. M. Oak Terrace
Mattison, P. A. Winona
Mattson, C. H. Duluth
Mattson, H. A. N. Minneapolis
Masciner, S. R. Minneapolis
May, W. H. Minneapolis
Mayne, R. M. Duluth
Mayo, C. H. Rochester
Mayo, C. W. Rochester
Mayo, W. J. Rochester
Maytum, C. K. Rochester
McBroom, D. E. Cambridge
McCann, D. F. Bemidji
McCann, E. J. Fort Snelling
McCarten, F. M. Stillwater
McCarthy, Donald Minneapolis
McCarthy, J. J. St. Paul
McCarthy, W. J. Madelia

McCarthy, W. R. St. Paul
 McCartney, J. S. Minneapolis
 McCarty, P. D. Ely
 McCarty, W. C. Rochester
 McClanahan, J. H. White Bear Lake
 McClanahan, T. S. White Bear Lake
 McComb, C. F. Duluth
 McCoy, Mary K. Duluth
 McCrea, James. Fulda
 McCullough, J. A. L. Rochester
 McDaniel, Orianna. Minneapolis
 McDaniel, S. P. Virginia
 McDonald, A. L. Duluth
 McDonald, J. R. Rochester
 McDonough, F. E. Rochester
 McDowell, J. P. St. Cloud
 McElmel, E. F. Pipestone
 McEnaney, C. T. Owatonna
 McFarland, A. H. Minneapolis
 McGandy, R. F. Minneapolis
 McGeary, G. E. Minneapolis
 McGroarty, J. J. Easton
 McGuigan, H. T. Red Wing
 McHaffie, O. L. Duluth
 McNerny, M. W. Minneapolis
 McIntire, H. M. Waseca
 McIntyre, George. Long Beach, Calif.
 McIntyre, J. A. Owatonna
 McIver, B. A. Lowry
 McKaig, C. B. Pine Island
 McKean, F. F. Delavan
 McKean, R. S. Rochester
 McKenna, J. K. Austin
 McKenna, M. J. Grand Rapids
 McKenzie, C. H. Minneapolis
 McKean, J. O. Montgomery
 McKinlay, C. A. Minneapolis
 McKinley, J. C. Minneapolis
 McKinney, F. S. Minneapolis
 McKinnon, D. A., Jr. Rochester
 McLane, Evelyn M. G. Jackson
 McLane, W. O. Jackson
 McLaren, Jennette M. Minneapolis
 McLoughlin, E. M. Winona
 McLeod, J. L. Grand Rapids
 McMahon, L. H. Breckenridge
 McMahon, M. J. Green Isle
 McManamy, E. P. Rochester
 McNevin, C. F. St. Paul
 McNutt, J. R. Duluth
 McPheeters, H. O. Minneapolis
 McQuarrie, Irvine. Minneapolis
 Mead, C. H. Duluth
 Meade, J. R. St. Paul
 Mears, B. J. St. Paul
 Meccray, P. M., Jr. Rochester
 Medelman, J. P. St. Paul
 Meinert, A. E. Winona
 Meland, E. L. Minneapolis
 Melby, Bendik. Blooming Prairie
 Melby, O. F. Thief River Falls
 Melzer, G. Lyle
 Merch, W. F. Crookston
 Merkert, C. E. Minneapolis
 Merkert, G. L. Minneapolis
 Merrill, Elisabeth. Minneapolis
 Merriman, L. L. Duluth
 Merritt, W. A. Rochester
 Mesker, G. H. Olivia
 Meyer, A. A. Melrose
 Meyer, E. L. Minneapolis
 Meyer, F. C. Kenyon
 Meyer, J. O. Grand Rapids
 Meyer, P. E. Faribault
 Meyerding, E. A. St. Paul
 Meyerding, H. W. Rochester
 Michael, J. C. Minneapolis
 Michel, H. H. Minneapolis
 Michelson, H. E. Minneapolis
 Miller, H. A. Fairmont
 Miller, H. E. Minneapolis
 Miller, J. C. Minneapolis
 Miller, J. M. Rochester
 Miller, V. L. Mankato
 Miller, W. J. New York Mills
 Mills, J. L. Winnebago
 Milton, J. S. Minneapolis
 Miners, G. A. Deer River
 Mingo, F. E. Hugo
 Mitchell, E. C. Minneapolis
 Mitchell, R. S. Grand Meadow
 Moberg, C. W. Lake Park
 Moe, J. H. Minneapolis
 Moe, R. J. Duluth
 Moe, Thomas. Moose Lake
 Moen, J. K., Jr. Minneapolis
 Moersch, F. P. Rochester
 Moersch, H. J. Rochester
 Moga, J. A. St. Paul
 Mogilner, S. N. St. Paul

Moir, W. W. Minneapolis
 Molander, H. A. St. Paul
 Monroe, P. B. Two Harbors
 Monson, E. M. Minneapolis
 Monson, L. J. Hendricks
 Montgomery, Hamilton. Rochester
 Mooney, L. P. Graceville
 Moorhead, Martha B. Minneapolis
 Moquin, Marie A. St. Paul
 Moran, Tera R. Phoenix, Ariz.
 More, C. W. Eveleth
 Morehead, D. E. Owatonna
 Moren, Edward. Minneapolis
 Morgan, H. O. Amboy
 Moriarty, Berenice. St. Paul
 Moriarty, Cecile R. Minneapolis
 Morissette, Leopold. Rochester
 Mork, B. O., Jr. Worthington
 Mork, B. O., Sr. Worthington
 Morley, G. A. Crookston
 Morlock, C. G. Rochester
 Morrison, A. W. Minneapolis
 Morrison, Charlotte J. Minneapolis
 Morrissey, F. B. St. Paul
 Morrow, J. J. St. Austin
 Morse, M. J. Le Roy
 Morse, R. W. Minneapolis
 Morsman, L. W. Hibbing
 Mortensbak, H. E. Hanska
 Morton, H. McL. Vincentown, N. J.
 Mosby, M. E. Long Prairie
 Moses, Joseph, Jr. Northfield
 Mountain, G. E. Rochester
 Mouritsen, G. J. Fergus Falls
 Moss, M. N. St. Paul
 Mousel, L. H. Rochester
 Moyer, R. E. Faribault
 Moynihan, T. J. St. Paul
 Mueller, R. F. Two Harbors
 Mueller, Selma C. Duluth
 Muir, W. F. Graceville
 Muller, R. T. St. Paul
 Mulligan, A. M. Brainerd
 Mulrooney, R. E. Rochester
 Mundell, B. J. Washington, D. C.
 Munn, Elizabeth L. Rochester
 Murphy, E. P. Minneapolis
 Murphy, I. J. Minneapolis
 Murray, R. A. Aitkin
 Mussey, R. D. Rochester
 Myers, J. A. Minneapolis
 Myers, Thomas. St. Paul
 Myre, C. R. Paynesville
 Naegeli, A. E. St. Paul
 Naegeli, Frank. Fergus Falls
 Nagel, H. D. Waconia
 Nash, L. A. Rochester
 Naslund, A. W. St. Paul
 Nass, H. A. Mabel
 Nault, W. W. Winona
 Neal, J. M. Minneapolis
 Nealy, D. E. Adrian
 Neary, R. P. Minneapolis
 Neel, H. B. Rochester
 Neff, W. S. Virginia
 Neher, F. H. St. Paul
 Neilson, H. F. Minneapolis
 Neilson, E. H. Chisholm
 Neilson, E. I. Owatonna
 Neilson, H. F. Crookston
 Neilson, H. S. Excelsior
 Neilson, K. L. St. Paul
 Neilson, L. A. St. Paul
 Neilson, M. S. Granite Falls
 Neilson, N. H. Minneapolis
 Neilson, N. P. Brainerd
 Neilson, O. L. N. Minneapolis
 Neilson, R. L. Duluth
 Neilson, W. L. Minneapolis
 Neilson, W. O. B. Fergus Falls
 Nesbitt, Samuel. Rochester
 Ness, Claire M. Cambridge
 Neumaier, Arthur. Lindstrom
 Neumann, C. A. Winona
 New, G. B. Rochester
 Newhart, Horace. Minneapolis
 Nichols, A. E. St. Paul
 Nicholson, M. A. Duluth
 Nilles, L. J. Rollingstone
 Nilson, H. J. North Mankato
 Ninneman, N. N. Silver Lake
 Nissen, A. S. St. Peter
 Noble, J. F. St. Paul
 Noble, J. L. St. Paul
 Nordholm, V. W. Red Wing
 Nordin, G. T. Minneapolis
 Nordland, Martin. Minneapolis
 Nordman, W. F. Mora
 Norman, J. F. Crookston

Norris, E. H. Detroit, Mich.
 Norris, N. T. Caledonia
 Noth, H. W. Minneapolis
 Novak, E. E. New Prague
 Nuebel, C. J. St. Paul
 Nuessle, W. G. Springfield
 Nuetzman, A. W. Faribault
 Nutting, R. E. Duluth
 Nydahl, M. J. Minneapolis
 Nye, Katherine A. St. Paul
 Nye, Lillian L. St. Paul
 Nygren, W. T. Brahm
 Nylander, E. G. Minneapolis
 Nystrom, Ruth G. Minneapolis
 Oberg, C. M. Minneapolis
 O'Brien, J. P. Rochester
 O'Brien, W. A. Minneapolis
 O'Brien, W. M. St. Paul
 Ochsner, C. G. Wabasha
 O'Connor, L. J. St. Paul
 Odel, H. M. Rochester
 O'Donnell, D. M. Ortonville
 O'Donnell, J. E. Minneapolis
 Oeljen, S. C. G. Waseca
 Oerting, Harry. St. Paul
 Ogden, Warner. St. Paul
 Ohage, Justus, Jr. St. Paul
 O'Hanlon, J. A. Proctor
 Ohmstad, J. L. McIntosh
 Olds, G. H. Waseca
 Olds, J. W. Rochester
 O'Leary, P. A. Rochester
 Oliver, C. I. Graceville
 Oliver, L. L. Graceville
 Olmanson, E. G. St. Peter
 Olsen, A. M. Rochester
 Olsen, E. G. Minneapolis
 Olson, A. C. Minneapolis
 Olson, A. E. Duluth
 Olson, A. O. Duluth
 Olson, C. A. St. Paul
 Olson, C. J. Belle Plaine
 Olson, D. C. Gaylord
 Olson, E. A. Pine Island
 Olson, E. E. Minneapolis
 Olson, F. E. West Concord
 Olson, K. L. Gibbon
 Olson, O. A. Minneapolis
 Olson, R. G. Minneapolis
 Onsgaard, L. K. Houston
 Oppegaard, C. L. Crookston
 Oppegaard, M. O. Crookston
 Oppen, E. G. Minneapolis
 O'Reilly, B. E. St. Paul
 Ormond, D. T. Waconia
 Osborn, Lida. Mankato
 Osburn, B. F. International Falls
 Ostergren, E. W. St. Paul
 Otto, H. C. Frazee
 Ouellette, A. J. St. Paul
 Overpeck, O. D. Rochester
 Owre, Oscar. Minneapolis
 Page, C. V. St. Paul
 Page, R. L. St. Charles
 Palmer, C. F. Albert Lea
 Palmer, W. L. Albert Lea
 Pankratz, P. J. Mountain Lake
 Pansch, F. N. Rochester
 Paradis, W. G. Crookston
 Parker, O. W. Ely
 Parker, R. L. Rochester
 Parker, W. H. Chisholm
 Parkhill, Edith M. Rochester
 Parson, L. R. Elbow Lake
 Parsons, J. G. Crookston
 Pasek, A. W. Cloquet
 Passer, A. A. Olivia
 Pastore, P. N. Rochester
 Patterson, W. E. Minneapolis
 Patterson, W. L. Fergus Falls
 Patton, G. D. Rochester
 Paulsen, E. L. Minneapolis
 Paulson, D. L. Rochester
 Paulson, J. A. Rochester
 Paulson, T. S. Fergus Falls
 Pearson, R. O. D. Rochester
 Pearsall, R. P. Virginia
 Pearson, B. F. Shakopee
 Pearson, F. R. St. Paul
 Pedersen, A. H. St. Paul
 Pederson, R. M. Minneapolis
 Pelant, F. J. New Ulm
 Pelletiere, E. V. Thief River Falls
 Pemberton, J. deJ. Rochester
 Pennall, F. W. Morton
 Penn, G. E. Mankato
 Pennie, D. F. Duluth
 Pennington, Reuben. Minneapolis

Sessions, J. C. Minneapolis
 Seither, A. F. Rutherford
 Settlage, A. F. E. Worthington
 Setzer, H. J. St. Paul
 Shaleen, S. S. Crosby
 Shannon, A. W. St. Paul
 Shannon, W. R. St. Paul
 Shaperman, Eva P. Minneapolis
 Shapiro, E. Z. Duluth
 Shapiro, M. J. Minneapolis
 Sharp, D. V. Minneapolis
 Sharpe, W. S. Rochester
 Shastid, T. H. Duluth
 Shaw, A. W. Virginia
 Shedlov, Abraham Fosston
 Sheedy, C. L. Austin
 Sheedy, L. P. Rochester
 Shelden, W. D. Rochester
 Sheldon, C. H. Rochester
 Shellman, J. L. St. Paul
 Shelver, H. J. Ortonville
 Shephard, V. D. Rochester
 Sheppard, C. G. Hutchinson
 Sheppard, Fred. Hutchinson
 Sheppard, P. E. Hutchinson
 Sher, D. A. Cold Spring
 Sherman, C. L. Luverne
 Sherwood, G. E. Kimball
 Shillington, M. A. Glendive, Mont.
 Shimonek, S. W. St. Paul
 Shoemaker, Rosemary Des Moines, Iowa
 Short, Jacob St. Paul
 Shrader, J. S. Marietta
 Sickler, J. R. Rochester
 Siegmann, W. C. Minneapolis
 Silver, J. D. Minneapolis
 Simison, Carl Barnesville
 Simison, C. W. Hawley
 Simons, B. H. Chaska
 Simons, E. J. Swanville
 Simons, J. H. Minneapolis
 Simons, L. T. St. Paul
 Simonton, K. M. Rochester
 Simpson, E. D. Minneapolis
 Sinamark, Andrew St. Paul
 Singer, B. J. Minneapolis
 Siperstein, C. E. Grand Rapids
 Sivertsen, Andrew Mound
 Sivertsen, Ivar Minneapolis
 Sjostrom, L. E. Storden
 Skinner, H. O. St. Paul
 Skinner, I. C., Jr. Rochester
 Skjold, A. C. Minneapolis
 Slater, S. A. Worthington
 Sloan, Julius Rochester
 Slocumb, C. H. Rochester
 Slocumb, J. A. Plainville
 Slyfield, F. E. Duluth
 Smisek, E. A. St. Paul
 Smisek, F. M. E. Minneapolis
 Smith, A. E. Minneapolis
 Smith, Archie M. Minneapolis
 Smith, A. M. Minneapolis
 Smith, B. A. Crosby
 Smith, B. F. Rochester
 Smith, C. H. New Hampton
 Smith, C. M. Duluth
 Smith, F. A. Rochester
 Smith, F. D. Rochester
 Smith, F. L. Rochester
 Smith, H. L. Rochester
 Smith, H. R. Minneapolis
 Smith, K. A. Rochester
 Smith, L. A. Balaton
 Smith, L. A. Rochester
 Smith, L. G. Montevideo
 Smith, M. W. Red Wing
 Smith, N. D. Rochester
 Smith, N. M. Minneapolis
 Smith, R. L., Jr. Rochester
 Smith, S. I. Eveleth
 Smith, V. D. E. St. Paul
 Smith, W. R. Grand Marais
 Snell, A. M. Rochester
 Snyder, G. W. St. Paul
 Snyder, J. M. Rochester
 Soderlind, R. T. Minneapolis
 Soerge, L. L. Windom
 Sohlberg, O. I. St. Paul
 Soher, A. E. Mankato
 Solhaug, S. B. Minneapolis
 Sommer, A. W. Elmore
 Soniat, T. L. L. Rochester
 Sonnesyn, N. N. Le Sueur
 Souster, B. B. St. Paul
 Spang, A. J. Duluth
 Spano, J. F. Minneapolis
 Sperling, Louis Minneapolis

Spicer, F. W. Duluth
 Spink, W. W. Minneapolis
 Sprafka, J. M. St. Paul
 Sprague, R. G. Rochester
 Spratt, C. N. Minneapolis
 Spurbek, R. G. Cloquet
 Spurzem, R. J. Anoka
 Squire, E. W. Rochester
 Stafford, D. E. Rochester
 Stafne, W. A. Moorhead
 Stalker, L. K. Rochester
 Stanford, C. E. Minneapolis
 Stangl, F. H. St. Cloud
 Stangl, P. E. St. Cloud
 Stanley, C. R. Worthington
 Stebbins, T. L. Minneapolis
 Steffens, L. A. Red Wing
 Steffens, L. F. Rochester
 Stein, R. J. Pierz
 Steinberg, C. L. St. Paul
 Steiner, L. W. Winona
 Stelter, L. A. Minneapolis
 Stemrud, H. L. Parkers Prairie
 Stenstrom, Annette E. T. Minneapolis
 Stephan, E. L. Hinckley
 Sterner, E. G. St. Paul
 Sterner, E. R. St. Paul
 Stevens, John Gonvick
 Stevenson, B. M. Fulda
 Stewart, Alexander St. Paul
 Stewart, A. B. Owatonna
 Stewart, C. A. Minneapolis
 Stewart, Gwendolyn Faribault
 Stewart, N. E. St. Cloud
 Stewart, R. L. Minneapolis
 Stickney, J. M. Rochester
 Stillwell, W. C. Mankato
 Stinnette, S. E. St. Paul
 Stocking, F. F. Hallock
 Stockmann, A. E. St. Paul
 Stolpestad, A. H. St. Paul
 Stolpestad, H. L. St. Paul
 Stomel, Joseph Los Angeles, Calif.
 Strachauer, A. C. Minneapolis
 Strand, E. V. Bayport
 Strate, G. E. St. Paul
 Strathern, C. S. St. Peter
 Strathern, F. P. St. Peter
 Strathern, M. L. Gilbert
 Stratte, A. K. Pine City
 Stratte, H. C. Windom
 Straus, M. L. St. Paul
 Street, Bernard Stillwater
 Strobel, W. G. Duluth
 Stroebel, C. F., Jr. Northfield
 Stromgren, D. T. Minneapolis
 Strout, E. S. Minneapolis
 Strout, G. E. Minneapolis
 Stuart, A. B. Cloquet
 Stuhler, L. G. Rochester
 Stuhr, J. W. Stillwater
 Sturre, J. R. Minneapolis
 Sturmans, S. H. Erskine
 Sukeforth, L. A. Duluth
 Sullivan, R. M. Minneapolis
 Sullivan, R. E. Minneapolis
 Sundt, Mathias Minneapolis
 Sutherland, C. G. Rochester
 Sutherland, H. N. Ely
 Sutton, C. S. St. Cloud
 Sutton, H. R. Hoffman
 Swanson, Cephas Minneapolis
 Swanson, J. A. St. Paul
 Swanson, P. E. Virginia
 Swanson, R. E. Minneapolis
 Swanson, R. E. Albert Lea
 Swartz, F. C. Rochester
 Swedenburg, P. A. Swannville
 Sweetser, H. B., Jr. Minneapolis
 Sweetser, H. B., Sr. Minneapolis
 Sweetser, T. H. Minneapolis
 Sweitzer, S. E. Minneapolis
 Swendsen, C. G. Minneapolis
 Swenson, J. L. St. Paul
 Swensen, R. G. North Branch
 Swenson, A. O. Duluth
 Swenson, O. J. Waseca
 Swift, E. V. Rochester
 Swingle, H. F. Rochester
 Sybilrud, H. W. Briceyn
 Tangen, G. M. Canby
 Tanglin, W. G. L. Mahanomen
 Tanquist, E. J. Alexandria
 Taylor, C. W. Duluth
 Taylor, J. H. Minneapolis
 Teisberg, C. B. St. Paul
 Telford, V. J. Litchfield
 Tenner, R. J. Rochester
 Tennon, W. J. Rochester

Thabes, J. A. Brainerd
 Thabes, J. A., Jr. Brainerd
 Thayer, E. A. Truman
 Thielen, R. D. St. Michael
 Thigpen, F. M. Rochester
 Thomas, G. E. Minneapolis
 Thomas, G. H. Minneapolis
 Thomas, G. J. Minneapolis
 Thompson, Albert St. James
 Thompson, Arthur Kokato
 Thompson, F. A. St. Paul
 Thompson, G. J. Rochester
 Thomson, J. M. Brownsdale
 Thordarson, Theodore Minnetoca
 Thoreson, M. O. St. Paul
 Thorson, E. O. Luverne
 Thorson, O. P. Northfield
 Thysell, D. M. Minneapolis
 Thysell, E. A. Moorhead
 Thysell, V. D. Hawley
 Tibbetts, M. H. Duluth
 Tierney, C. M. Harmony
 Tift, C. R. St. Paul
 Tilderquist, D. L. Duluth
 Tillisch, J. H. Rochester
 Tinker, C. W. Stewart
 Tingdale, A. C. Minneapolis
 Tofte, Josephine B. Minneapolis
 Tooke, T. B., Jr. Rochester
 Torgerson, W. B. Oklee
 Townsend, De Wayne Brooken
 Traeger, C. A. Faribault
 Trandem, C. Elinor Rochester
 Traxler, F. J. Henderson
 Tregilas, H. R. So. St. Paul
 Trommald, Gladys B. K. Anoka
 Troost, H. B. Mankato
 Trueman, H. S. Minneapolis
 Trueman, K. R. Silver Lake
 Trueta, T. J. Minneapolis
 Tunstead, H. J. Rochester
 Tuohy, E. B. Duluth
 Tuohy, E. L. Minneapolis
 Turnaciff, D. D. Winona
 Tweedy, G. J. Winona
 Tweedy, J. A. Winona
 Tweedy, R. B. Winona
 Tyrrell, C. C. Minneapolis
 Ude, W. H. Minneapolis
 Uhley, C. G. Crookston
 Uhlrich, Alfred Rochester
 Ulrich, H. L. Minneapolis
 Undine, C. A. Duluth
 Urberg, S. E. Rochester
 Usher, F. C. Cannon Falls
 Vaaler, Torvald Tyler
 Vadheim, A. L. Tyler
 Vadheim, J. L. Hennig
 Vail, J. B. Tracy
 Valentine, W. H. Bemidji
 Vandersluis, C. W. St. Paul
 Van Slyke, C. A. Floodwood
 Van Valkenberg, J. D. Truman
 Vaughan, V. M. Rochester
 Vaughn, L. D. St. Paul
 Veirs, D. M. St. Paul
 Veirs, Ruby J. S. St. Paul
 Venables, A. E. Duluth
 Vercellini, C. H. E. Mapleton
 Vezina, J. C. Rochester
 Vickers, P. M. Minneapolis
 Vik, A. E. Onamia
 Virnie, M. P. Wells
 Vogel, H. A. L. New Ulm
 Vogel, J. H. New Ulm
 Von der Weyer, W. H. St. Paul
 Waas, C. W. St. Paul
 Wadd, C. T. Waseca
 Wagener, H. P. Rochester
 Waggoner, R. P. Rochester
 Wahlberg, E. W. Morgan
 Wahlquist, H. F. Minneapolis
 Waisman, Morris Rochester
 Wakefield, E. G. Rochester
 Walch, A. E. Minneapolis
 Waldron, C. W. Minneapolis
 Walfred, K. A. St. Cloud
 Walker, A. E. Duluth
 Walker, A. E. St. Paul
 Walker, G. H. Winona
 Wall, C. R. Minneapolis
 Wallace, M. O. Duluth
 Waller, J. D. Wilmont
 Walsh, J. J. Rochester
 Walsh, M. N. Rochester
 Walter, C. W. St. Paul
 Walters, Waltman Rochester

Wangensteen, O. H. Minneapolis
 Wanous, E. Z. Minneapolis
 Ward, A. W. Minneapolis
 Ward, C. E. Jackson, Miss.
 Ward, P. A. Minneapolis
 Warham, T. T. Minneapolis
 Warnock, R. W. St. Paul
 Warren, C. A. St. Paul
 Warren, E. L. St. Paul
 Warren, F. S. Washington, D. C.
 Wasson, L. F. Chicago City
 Watkins, C. H. Rochester
 Watson, A. M. Royalton
 Watson, C. G. Soudan
 Watson, C. J. Minneapolis
 Watson, J. A. Minneapolis
 Watson, J. D. Holdingford
 Watson, P. T. Cass Lake
 Watson, W. J. Holdingford
 Watterson, K. W. Meadville, Pa.
 Watz, C. E. St. Paul
 Waugh, J. M. Rochester
 Weaver, D. F. Rochester
 Webb, R. C. Minneapolis
 Webber, E. E. Duluth
 Weber, H. M. Rochester
 Webster, L. J. Battle Lake
 Weir, J. F. Rochester
 Weiser, G. B. New Ulm
 Weisman, S. A. Minneapolis
 Welch, M. C. St. Paul
 Wellman, T. G. Virginia
 Wells, A. H. Duluth
 Wells, W. B. Jackson
 Wenner, W. T. St. Cloud
 Wentworth, A. J. Mankato
 Wenzel, G. P. St. Paul
 Werner, O. S. Cambridge
 West, E. J. Faribault
 Westby, Magnus Madison
 Westby, Nels Madison
 Westerman, A. E. Montgomery
 Westerman, F. C. Montgomery
 Westra, J. J. Rochester
 Wethall, A. G. Minneapolis
 Wetherby, Macnider Minneapolis
 Weum, T. W. Minneapolis
 Wheeler, D. W. Duluth
 Wheeler, M. W. St. Paul
 Whitestone, S. D. Winona
 Whitacre, J. C. St. Paul

White, A. A. Minneapolis
 White, S. M. Minneapolis
 White, W. D. Minneapolis
 Whitesell, L. A. Minneapolis
 Whitmore, F. W. St. Paul
 Whitson, S. A. Alden
 Whittemore, D. D. Bemidji
 Widen, W. F. Minneapolis
 Wiechman, F. H. Cass Lake
 Wilcox, A. E. Minneapolis
 Wilcox, L. E. Rochester
 Wilder, K. W. Minneapolis
 Wilder, R. L. Minneapolis
 Wilder, R. M. Rochester
 Wilken, P. A. Minneapolis
 Wilkinson, Stella L. Duluth
 Wilkowske, R. J. Nerstrand
 Will, W. W. Bertha
 Willcutt, C. E. Minneapolis
 Williams, A. B. St. Paul
 Williams, C. A. Pipestone
 Williams, C. K. St. Paul
 Williams, H. L., Jr. Rochester
 Williams, H. O. Lake Crystal
 Williams, L. A. Slayton
 Williams, M. R. Cannon Falls
 Williams, R. V. Rushford
 Williams, Robert Minneapolis
 Williamson, G. A. St. Paul
 Willius, F. A. Rochester
 Willson, D. M. Rochester
 Wilmot, C. A. Litchfield
 Wilmot, H. E. Litchfield
 Wilson, C. E. Blue Earth
 Wilson, J. A. St. Paul
 Wilson, J. V. St. Paul
 Wilson, L. B. Rochester
 Wilson, R. B. Rochester
 Wilson, R. H. Winona
 Wilson, V. O. Minneapolis
 Wilson, W. D. Rochester
 Wilson, W. E. Northfield
 Wilson, W. F. Lake City
 Wilttrout, I. G. Oslo
 Windsor, R. L. Fergus Falls
 Winer, L. H. Minneapolis
 Winnick, J. B. St. Paul
 Winter, J. A. M. C. Duluth
 Winther, Nora M. C. Minneapolis
 Wingquist, C. G. Crosby
 Witham, C. A. Minneapolis

Withrow, M. E. International Falls
 Wittich, F. W. Minneapolis
 Wohlrabe, A. A. Minneapolis
 Wohlrabe, C. F. Minneapolis
 Wohlrabe, E. J. Springfield
 Wold, K. C. St. Paul
 Wolfe, H. H. St. Paul
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